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Our Reference 23-1204

Your Reference FS30/5/1/2/2/10005MR

29 July 2024

APPLICATION FOR AMENDMENT OF THE EA/EMP OF WITWATERSRAND CONSOLIDATED GOLD RESOURCES (WITS GOLD) SOUTHERN ORANGE FREE STATE (SOFS) MINING RIGHT AMENDMENT NEAR VIRGINIA, FREE STATE.

Amendment Report – Information Letter

Witwatersrand Consolidated Gold Resources (Pty) Ltd (hereinafter referred to as "Wits Gold", "the Applicant" or "the Company"). The Department of Mineral Resources and Energy (DMRE) has granted New Order Prospecting Rights to Wits Gold, covering a total of 119,586 hectares (ha) in three goldfields, namely the Southern Free State (SOFS), Potchefstroom and Klerksdorp goldfields. Phase 1 of the SOFS Mining Operation, namely the DBM Project, which covers an area of 4,024 ha, has been granted.

The mining right commenced on 14 June 2017 for a period of 23 years. On 30 November 2018, Wits Gold submitted an application in terms of s102 of the Mineral and Petroleum Resources Development Act (MPRDA) for Ministerial consent to include Portion 1, Portion 8, Portion 9, Portion 10, Portion 11, Portion 14, Portion 15, Portion 18, Portion 19, Portion 22, Portion 25, Portion 28, Portion 29 (underground), remainder of the Farm Stilte 138, remainder of the Farm Dora 287, Portion 1 and a Portion of the remainder of the farm Mooiuitzig 352, a Portion of the remainder of the Farm Schoonnheid 540, a Portion of the Farm Kaallaagte 562 into the SOF S mining right that had previously been erroneously excluded. A "Part 2" (Substantive change) amendment process as described in Regulation 31 is required, in which the changes in environmental impacts must be assessed for the new area that was not included in the original Application.

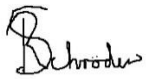
The DBM Project Extension of the SOFS project will include the addition of properties for underground mining to expand from Phase 1 into the adjacent underground resources areas, making use of all the infrastructure, utilities, machinery and access from the Phase 1 project. Phase 2 will therefore only consist of underground mining operations (1000-2000 mbs) at this stage, expanding from Phase 1 underground workings

As the entire was assessed during the Mining Right Application and the current EIA-EMPr provides the basis on which the mine will be managed, it is favourable to use the Existing Environmental Impact Assessment and Environmental Management Programme binding document and incorporate the assessed impacts from the new additional properties into the exiting Mining Right.

Please note that the *Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold): Southern Free State (SOFS) Mining Operation Environmental Impact Assessment and Environmental Management Programme (EIA/EMP)* is the existing binding EMPR for the site and no changes to the existing document and commitment can be made. To incorporate the extension project of the pretties into the existing document and prevent duplicative measures, documents and commitments the amended sections in the Report have been added in **blue** for the reviewers to be able to distinguish between approved measures and assessments and the assessments that have been included for the amendment of the Environmental Authorisation to include the omitted properties.

Should you have any queries please don't hesitate to contact us.

Yours faithfully



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Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold): Southern Free State (SOFS) Mining Operation

Environmental Impact Assessment and Environmental Management Programme (EIA/EMP)

Final Amendment

In terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)

Version - Final Amendment

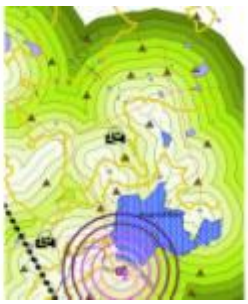
July 2024

Witwatersrand Consolidated Gold Resources (Wits Gold)

GCS Project Number: 23-1204

DMRE Reference No: FS 30/5/1/2/2/10005 MR




Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold): Southern Free State (SOFS) Mining Operation

Environmental Impact Assessment and Environmental Management Programme (EIA/EMP) Report, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) - Amendment

Version – Final Amendment

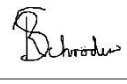
July 2024

Witwatersrand Consolidated Gold Resources (Wits Gold)

GCS Project Number: 23-1204

DMRE Reference No: FS 30/5/1/2/2/10005 MR

DOCUMENT ISSUE STATUS

Report Issue	FINAL Amendment for Review		
GCS Reference Number	23-1204		
Client Reference	Southern Orange Free State (SOFS) Mining Right Amendment		
Title	SOFS Mining Operation Environmental Impact Assessment and Environmental Management Programme (EIA/EMP) Report Amendment Report		
	Name	**Signature**	**Date**
Author	Tarryn Hendry		July 2012
Document Reviewer	Renee Janse van Rensburg		July 2012
Director	Ferdi Pieterse		August 2012
Amendment Author	Rona Schröder *Pr.Sci.Nat & EAPASA*		July 2024

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EXECUTIVE SUMMARY

Background

Witwatersrand Consolidated Gold Resources (Pty) Ltd (hereinafter referred to as "Wits Gold", "the Applicant" or "the Company").. The Department of Mineral Resources and Energy (DMRE) has granted New Order Prospecting Rights to Wits Gold, covering a total of 119,586 hectares (ha) in three goldfields, namely the Southern Free State (SOFS), Potchefstroom and Klerksdorp goldfields. Phase 1 of the SOFS Mining Operation, namely the DBM Project, which covers an area of 4,024 ha, has been granted.

The proposed project is located within the following District and Local Municipalities:

- Lejweleputswa District Municipalities;
- Matjhabeng Local Municipality; and
- Masilonyana Local Municipality.

The Mining Right (FS30/5/1/2/2/10005 MR) commenced on 14 June 2017. Subsequently the Mine has submitted an application in terms of section 102 of the MPRDA on the 30th of November 2018 to amend the Mining Right to incorporate additional properties into the Mining Right.

Project Description

Phase 1 of the SOFS Mining Operation, namely the DBM Project, is situated in the Free State Province of central South Africa and is south of the town of Virginia (28°70"S, 26°54"E); whilst the closest major towns to Virginia are Welkom (24 km North-West) and Bloemfontein (136 km South-West), Virginia is approximately 270 km by national road from Johannesburg. It is important to note that the DBM Project Mining Right has been granted and executed. Underground mining methods will be implemented at depths starting from 480 metres below surface. Mining is currently planned to be undertaken using narrow reef breast mining approach common to the gold mines of South Africa. Support for the mining will be from a trackless footwall infrastructure below the Leader Reef (bottom reef horizon). This is less common but not unique in underground South African gold mines.

The primary access route to the DBM Project is the N1 national road or freeway; with tarred, main roads (R73, R70 and R34) branching off this freeway. The Wits Gold properties are intersected approximately 86 km from the N1/R34 turnoff (or 21 km via a direct gravel road from the same junction).

The project zone of influence will extend to the township of Meloding, which is approximately 1.8 km from the proposed shaft area. The TSF location is proposed to be situated on an existing Brownfield Tailings Storage Facility (TSF) in the area. The final option will depend on agreements between all affected parties and relevant government approvals. This aspect will be assessed and discussed in more detail during the EIA phase of the project. Access to the mine will probably be via a portal decline and vertical shaft combination, or a twin vertical shaft system. The Engineering Scoping Study envisaged that the decline would be used to transport all rock to surface while men and materials would be transported via the vertical shaft. This mine design was refined and modified in the pre-feasibility study, where a twin vertical shaft system is proposed.

Proposed infrastructure that will form part of Phase 1 of the SOFS Mining Operation, namely the DBM Project will include:

WATER	**BULK POWER SUPPLIES**
Bulk water supplies;	Bulk power supplies;
Surface supply reticulation;	Main Eskom yard;
Underground supply reticulation;	Surface reticulation;
Dirty water pumping and settling; and	Underground reticulation; and
Sewage treatment.	Emergency generators.
SURFACE INFRASTRUCTURE	**UNDERGROUND INFRASTRUCTURE**
Buildings and offices;	Workshops;
Workshops;	First aid facility;
Clinic;	Fire detection;
Stores and marshalling yard;	Rescue chambers;
Core yard;	Stores; and
Sewage treatment and waste disposal;	Pump chambers.
Roads and storm water handling;	
Tailing storage facilities & waste rock dump;	
Rock handling & conveyors;	
Change house;	
Main fans;	
Shaft headgears;	
Winders;	
Ice plant & cooling towers; and	
Metallurgical plant.	

The DBM Project Extension of the SOFS project will include the addition of properties for underground mining to expand from Phase 1 into the adjacent underground resources areas, making use of all the infrastructure, utilities, machinery and access from the Phase 1 project. The SOFS Expansion will therefore only consist of underground mining operations (1000-2000 mbs) at this stage, expanding from Phase 1 underground workings.

Farm Portions

The SOFS Phase 1 (DBM project) mining operation surface infrastructure is currently envisaged to be located on the following farm portions:

LAND OWNER	FARM	MAGISTERIAL DISTRICT	PORTION	TITLE DEED	SG CODE
Andries Benjamin Pienaar	Florida 633	Ventersburg	1	T11996/1979	F03500000000063300001
Andries Benjamin Pienaar	Florida 633	Ventersburg	4	T28107/1998	F03500000000063300004
Johan van Huysteen	Welgeleggen	Theunissen	RE2	T1072/1986	F03300000000038200002
Piet Nieman	Welgeleggen	Theunissen	24	T5581/1997	F03300000000038200024

SOFS Expansion project includes the addition of new proposed properties into the existing Mining Right area.

The SOFS DBM Project Extension will include underground mining located underneath the following farm portions:

LAND OWNER	FARM	MAGISTERIAL DISTRICT	PORTION	TITLE DEED	SG CODE
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 1,	T6450/1954	F03500000000013800001
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 9,	T16941/2009	F03500000000013800009
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 22	T25103/2001	F03500000000013800022
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 8	T16940/2009	F03500000000013800008
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 10	T16942/2009	F03500000000013800010
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 11	T16943/2009	F03500000000013800011
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 19	T3231/2001	F03500000000013800019
Virginia Plaaslike Oorgangsraad	Stilte 138	Ventersburg	Portion 14	T29015/2000	F03500000000013800014
Virginia Plaaslike Oorgangsraad	Stilte 138	Ventersburg	Portion 15	T29009/2000	F03500000000013800015
Virginia Plaaslike Oorgangsraad	Stilte 138	Ventersburg	Portion 18	T29012/2000	F03500000000013800018
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 25	T12050/2010	F03500000000013800025
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 28	T12053/2010	F03500000000013800028
No Information	Stilte 138	Ventersburg	Portion 29	Not Available	F03500000000013800029
Matjhabeng Local Municipality	Dora 287	Ventersburg	Portion 0	T16414/2021	F03500000000028700000
Matjhabeng Local Municipality	Mooiuitzig 352	Ventersburg	Portion 0	T16414/2021	F03500000000035200000

Transnet	Mooiuitzig 352	Ventersburg	Portion 1	T5413/1993	F03500000000035200001
Matjhabeng Local Municipality	Schoonnheid 540	Ventersburg	Portion 0	T17706/1997	F03500000000054000000
HARMONY GOLD MINING CO LTD	Kaallaagte 562	Ventersburg	Portion of Portion	T2404/1927	F03500000000056200000

Environmental Authorisations

MPRDA Process

The environmental authorisation process required in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA) addressed the project as a whole including all activities related to the proposed SOFS Mining Operation. The Environmental Impact Assessment and Management Programme (EIA/EMP) developed in terms of the MPRDA addressed all the environmental impacts and proposed management measures associated with the planned mining operation, as well as provided background on the current environmental conditions on site. The 2012 EIA/EMP complied with the requirements of the MPRDA and the DMRE for an EIA/EMP developed as a prerequisite of a Mining Right Application.

The mining right commenced on 14 June 2017 for a period of 23 years. On 30 November 2018, Wits Gold submitted an application in terms of s102 of the Mineral and Petroleum Resources Development Act (MPRDA) for Ministerial consent to include Portion 1, Portion 8, Portion 9, Portion 10, Portion 11, Portion 14, Portion 15, Portion 18, Portion 19, Portion 22, Portion 25, Portion 28, Portion 29 (underground), remainder of the Farm Stilte 138, remainder of the Farm Dora 287, Portion 1 and a Portion of the remainder of the farm Mooiuitzig 352, a Portion of the remainder of the Farm Schoonnheid 540, a Portion of the Farm Kaallaagte 562 into the SOF S mining right that had previously been erroneously excluded.

Since the One Environmental System came into effect on 8 December 2014, the DMRE is now the Competent Authority for mining-related activities which includes the issuance and amendments of Environmental Authorisations (EA). Therefore the DMRE is the issuing authority for Environmental Authorisation for mining activities, whereas prior to December 2014 Environmental Authorisations would be issued by the Provincial or National Environmental departments.

NEMA Process

The environmental authorisation process required in terms of Section 24 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) requires that all listed

activities (e.g. construction, infrastructure development, transportation routes, etc.) identified in all phases of the project, which may impact on the environment must obtain an environmental authorisation from a relevant authority before commencement with such activities can be initiated. The specific listed activities are detailed under the NEMA Regulations 544 and 545, dated 2 August 2010, which repeal Regulation 386 and 387 (dated 21 April 2006) of NEMA. In terms of the SOFS Phase 1 (DBM Project) Mining Operation, the National Department of Environmental Affairs (DEA) is regarded to be the competent authority for environmental authorisations required in terms of the NEMA, and as such all applications in terms of NEMA will be completed and sent to DEA for assessment and authorisation.

The Environmental Authorisation was issued by the Department of Environmental Affairs on the 4th of July 2014.

A "Part 2" (Substantive change) amendment process as described in Regulation 31 is required, in which the changes in environmental impacts must be assessed for the new area that was not included in the original Application.

NWA Process

According to the National Water Act, 1998 (Act No. 36 of 1998) (NWA), water may not be used without prior authorisation from the leading authority, in this case the Department of Water Affairs (DWA). Due to the requirements of the NWA, an Integrated Water Use License Application (IWULA) will be compiled for the SOFS Phase 1 (DBM Project) and submitted to the DWA to ensure the legality of the identified water uses associated with the proposed operation.

The water uses, in terms of Section 21 of the NWA, that may be applied for by the applicant include the following:

- Section 21(a) - Taking water from a water resource;
- Section 21(b) - Storing water;
- Section 21(c) - Impeding or diverting the flow of water in a watercourse;
- Section 21(d) - Engaging in a stream flow reduction activity contemplated in Section 36;
- Section 21(e) - Engaging in a controlled activity identified as such in Section 37(1) or declared under section 38(1);
- Section 21(f) - Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;

- Section 21(g) - Disposing of waste in a manner which may detrimentally impact on a water resource;
- Section 21(h) - Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process;
- Section 21(i) - Altering the bed, banks, course or characteristics of a watercourse;
- Section 21(j) - Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and
- Section 21(k) - Using water for recreational purposes.

In addition to the IWULA an Integrated Water and Waste Management Plan (IWWMP) will also be developed and submitted to the DWA for assessment and authorisation. The IWULA and IWWMP developed in respect of the NWA will comply with the requirements of the NWA and the DWA. This process can only be initiated once the PFS report is complete as the PFS is required to confirm the water uses that will require authorisation for the SOFS Mining Operation.

Currently the SOFS DBM Project Extension planning does not include additional infrastructure and the possible water uses that would require water use authorisation include Section 21(j) for the removal of water for the safety of the workers and Section 21 (a) for using the abstracted water. Water use authorisation would be obtained once the possible uses are finalised during the BFS. It is currently contemplated that the water uses would be through existing authorisations for the phase 1 aspect of the project.

Other Applicable Legislation

The environmental component of the project will also comply with the requirements of, *inter alia*, the following legislation and the Regulations promulgated there under:

- The Constitution of South Africa, 1996 (Act No. 108 of 1996);
- The Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA);
- The Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965) (APPA);
- The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM:AQA);
- The National Environmental Management: Waste Act, 2008(Act No. 59 of 2008) (NEM:WA);
- The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM:BA);
- The National Nuclear Regulator Act, 1999 (Act No. 47 of 1999) (NNR); and
- The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA).

The objectives of the environmental processes undertaken is to identify the positive/negative impacts associated with the proposed operation as well as to propose potential mitigation/management measures that may lessen the identified impacts. In order to mitigate potentially negative impacts and to identify any potential fatal flaws that may render the project environmentally unacceptable, GCS have adopted an integrated, step-by-step process to identify issues of concern and to thoroughly investigate these issues. The environmental impact assessment undertaken will address all phases related to the proposed mining operation, which include the following phases:

- Pre-construction Phase;
- Construction Phase;
- Operation Phase; and
- Closure and Decommissioning Phase.

To ensure that the negative impacts are identified and mitigated in the early stages of the project, and that the positive impacts are maximised, it will be necessary for the environmental study to meet the following aims:

- Follow the guideline process as outlined by the NEMA and the MPRDA;
- Provide input in the feasibility phases, where possible, to ensure that the most technically feasible, and environmentally sound options are selected;
- Ensure that impacts are identified early through investigations to minimise environmental damage and maximise benefits;
- Appoint sound and competent specialist to investigate the required environmental components;
- Conduct thorough specialist investigations that will allow the project team to develop an adequate understanding of the issues to be dealt with;
- Compile an EIA that will identify, evaluate and address the potential impacts;
- Provide ongoing environmental input into the project planning and development;
- Compile an EMP that will limit the significance of the negative impacts and maximise the positive aspects;
- Provide the regulatory authority with sufficient and confident information in order to make an informed decision;
- Provide a detailed project statement in terms of the recommendation by the Environmental Assessment Practitioner;
- Ensure that all relevant Interested and Affected Parties (I&APs) and/or Stakeholders are consulted and involved throughout the project; and
- Ensure that an open and transparent communication structure is in place during the life of the SOFS Mining Operation.

Public Participation during the Application Process

The Public Participation Process (PPP) is a requirement of the EIA/EMP process under the MPRDA and the NEMA, and ensures that all relevant I&APs are consulted and involved. The process ensures that all stakeholders have an opportunity to raise their comments as part of an open and transparent process, which in turn ensures for a complete comprehensive environmental study.

The main issues raised during the consultation process thus far include the following impacts:

ISSUE / CONCERN	SECTION REFERENCE
Public Participation Process	➢ Refer to Section 4, 5 and 6 of the Environmental Impact Assessment and Environmental Management Plan. ➢ Refer to Appendix F-1 for the I&AP Database
Security • Squatters and their cattle are also a major concern. • Theft and crime of crops and livestock; • Trespassing on property and the safety concerns.	➢ Refer to Section 4.14 and Section 6 of the EIA/EMP ➢ Refer to Appendix D-10
Health	➢ Refer to Section 4, 6, 7 and Section 11 of the EIA/EMP. ➢ Refer to Appendix D-10 ➢ Refer to Appendix C
Cultural	➢ Refer to Section 4.12 and 6. ➢ Refer to Appendix D-8 ➢ Refer to Appendix I
Socio-Economic • Measures for local procurement; • Valuation of the farm and affect income and profits; • Job Creation and Opportunities ; • Labour Plan, Mining Charter and Enterprise Development; • Transport, catering, building construction, railway, pipes and painting; • Equity shareholding, social responsibility'; • The value of neighbouring farms will drastically reduce as a result of mining activities; • Connectivity between farms are broken; • Due to the mine, no livestock farming will be able to take place.	➢ Refer to Section 4.14 and 6. ➢ Refer to Appendix D-10 ➢ Refer to Section Appendix C ➢ Refer to Appendix F-1 for the CV's received.
Environmental • Noise, visual and dust	➢ Refer to Section 4, 6, 7 and Section 11 of the EIA/EMP. ➢ Refer to Appendix D-10 ➢ Refer to Appendix C

Public Participation during the Amendment Process

For the Part 2 Amendment Process, a Basic Assessment Process needs to be followed which includes PPP. The PPP includes essentially includes consultation with the DMRE, Municipal leaders and councillors, placement of advertisements in local newspapers and languages, placing of site notices, notification to existing stakeholders, landowners and occupiers as well as community meetings to inform possible Interested and Affected Parties of the proposed project and how they can become involved.

Section 5 of this Report details the PPP process followed for the Amendment Process.

EIA/EMP Report

Phase 1 (DBM) Project

Pre-Construction Phase

During the pre-construction phase, the following activities need to be undertaken:

- Environmental authorisations;
- Applicable permitting;
- Additional specialist baseline assessments; and
- Baseline monitoring (key environmental variables).

Construction Phase

During the construction phase, the following activities could impact on the bio-physical environment and the cultural/social setting:

- Stripping of vegetation;
- Stripping of topsoil and subsoil as construction activities start on site;
- Impact on water system and associated wetlands due to the construction activities;
- Construction of the clean and dirty water systems;
- Possible compaction of soils by the establishment of topsoil stockpiles and berms;
- Dust dispersion from infrastructure construction and shaft construction activities; and
- Baseline monitoring (key environmental variables).

Operational Phase

During the operational phase, the following activities could impact on the bio-physical environment and the cultural/social setting:

- Underground mining activities;
- Possible compaction of soils and erosion of soil stockpiles and berms by wind and water;
- Impact on surface- and groundwater system due to the operational activities;

- Dust dispersion from workings;
- Clean and dirty water control and maintenance;
- Sewage management;
- Ancillary activities (workshops, offices, etc); and
- Baseline monitoring (key environmental variables).

Decommissioning and Closure Phase

When the decision is taken to decommission the mine, the following objectives and proposed actions for the decommissioning and closure phase of the mine could be considered:

- Recovery of all saleable infrastructure;
- Demolition of structures;
- Ripping of all compacted areas, which will be followed with amelioration and vegetation;
- Ensure that all remaining dumps, stockpiles and slopes are sufficiently shaped to blend in with the surrounding environment and remaining infrastructure;
- Amelioration and vegetation of all disturbed areas;
- Maintenance of all re-vegetated areas up until such areas initiate succession and create a sustainable cover;
- Monitoring of key environmental variables (i.e. soils, vegetation, groundwater and surface water) in order to demonstrate stability of rehabilitated areas;
- Weed management after closure, limited to areas disturbed by mining, mining infrastructure or included in the mining right area; and
- Monitoring will be undertaken for a specific period after closure or up until such time that all areas create a sustainable cover and ecosystem.

Identified Impacts and Recommended Mitigation Measures

GCS evaluated the SOFS Phase 1 (DBM Project) Mining Operation in terms of the identified activities related to the following phases:

- Pre-Construction Phase;
- Construction Phase
- Operational Phase; and
- Closure and Decommissioning Phase.

The following impacts were anticipated as per the studies completed:

Geology

The alteration of localized geology will be permanent and unavoidable due to the extraction process.

Topography

The surrounding natural relief will be altered through the placement of mining infrastructure. Mining operations in the area have, and will continue to, alter the natural topography. This alteration will be of permanent nature.

Soil, Land Use and Land Capability

The soil, land use and land capability within the mining area will be compromised through the presence of tailings dams, rock dumps, associated mine infrastructure, and ancillary infrastructure. Environmental legislation advocates the return of mining land to some form of sustainable land use as per the closure and decommissioning plan for the operation. The land use and land capability pre-mining is arable and grazing, and these should be considered post-closure.

Fauna and Flora

Mining footprint and infrastructure development invariably results in clearing of vegetation on site, both naturally occurring and established vegetation, as well as potential changes in drainage patterns, and destruction of habitat for wildlife. The clearing of vegetation could in itself destabilise soils, change local water balances, and encourage the spread of alien/invasive vegetation. Infrastructural and solid waste development could result in water pollution that may affect a range of organisms and ecosystems. Major negative impacts would be associated with species of conservation importance as well as impacts on migratory habits of fauna within the project area.

Wetlands

The majority of the wetland types within the project area have been disturbed by cultivation and alien invasive species. Potential impacts are the loss of wetland habitat, increased sediment movement into adjacent wetlands, altered run-off characteristics leading to hydrology changes of wetlands on site, and water quality deterioration. The wetlands in the project area can provide islands for significant flora and fauna species.

Hydrology (Surface Water)

The potential for surface water contamination exists if the operation does not employ adequate and appropriate storm water control measures and if clean and dirty water separation is not implemented on site. Impacts would not be limited to the site area and would thus require monitoring and management throughout the life of the mine.

Geohydrology (Groundwater)

The potential exists that significant ground water impacts, both direct and cumulative, could materialise due the nature and scale of the operation. Impacts associated with groundwater quality changes and impacts to the water table due to dewatering activities could be significant if not adequately managed. Further impacts associated with the potential for acid mine drainage are also possible. Impacts would not be limited to the site area and would thus require monitoring and management throughout the life of the mine.

Air Quality

The impact of the proposed operation on the air quality would be related directly to dust generation and dispersion. Impacts would not be limited to the site area and would thus require monitoring and management throughout the life of the mine.

Heritage

No significant impacts are applicable at this stage. Further clarity is required in respect of the infrastructure location and ancillary infrastructure identification to determine the exact nature of the impact on the two identified sites of potential importance. All graves are considered of high significance.

Social Impacts

The construction, development and operation of a new mining operation with the creation of new jobs will lead to high levels of expectation and possibly result in an influx of job-seekers. Potential negative impacts are associated with the influx of job-seekers to the area, informal housing development, potential safety and security issues for existing land owners, crop and infrastructure theft, and potential impacts on property values for directly and indirectly affected land owners. Potential positive impacts associated with the project include job creation and economic development (local and regional).

In addition the cumulative impacts were assessed and evaluated. Based on the findings of the impact assessment, a number of management measures and action plans were proposed and the identified impacts re-assessed to determine whether mitigation would change the overall significance of the identified impact.

In order for the anticipated impacts to be managed effectively, Wits Gold must adhere to the proposed management and action plans proposed in order to ensure that the anticipated impacts associated with the SOFS Phase 1 (DBM Project) Mining Operation are, indeed, minimised.

DBM Project Extension of the SOFS Project

Pre - Construction Phase

During the pre-construction phase, the following requirements are put in place:

- Amendment of the Environmental authorisation;
- Amendment of the Mining Right;
- Obtain any licenses and permits required for the new proposed mining area;
- Conduct specialist investigation on the new area to be included; and
- Baseline monitoring and current state of the new area (key environmental variables)

Construction Phase

There is currently no infrastructure or facilities planned for the additional area. Therefore, no construction activities are planned.

Operational Phase

During the operational phase, the following activities could affect the surrounding area:

- Underground Mining Activities;
- Water abstraction;
- Clean and dirty water control and maintenance;

Decommissioning phase

During the decommissioning phase the following activities could have an impact on the surrounding environment.

- Sealing of shafts;
- Possible flooding or continuous pumping of underground area;
- Monitoring of possible impacts on groundwater and decanting.

Identified Impacts and Possible Mitigation Measures

Air Quality

No significant air quality impacts are anticipated for the project as the activities that will take place are subsurface with no infrastructure planned.

Heritage, Archaeological and Palaeontological

The desktop noted that there were a few heritage features within the footprint. Most of these consisted of settlements that could have human graves. The farmhouses have been demolished and are ruins or no longer exist.

Aquatic Systems and Wetlands

There have been several wetlands identified within the study area. The is no river system within the study area.

Terrestrial Biodiversity

The vegetation within the study area has been altered by agricultural activities. The area is predominantly agricultural activities and the residential area of Meloding. A smaller section of the project area is located underneath the corner of an existing mining boundary and infrastructure.

Small mammals such as rabbits, jackals and deer would be found on the site from time to time. Due to the agricultural activities the natural habitat of most species has been disturbed. The proximity of the area to the Meloding settlement also impacts the occasional wildlife with poaching and snare hunting taking place in the vicinity.

Climate Change Impact

With no emissions activities planned for the site SOFS DBM Project Extension will have a very low effect on greenhouse gas emissions. The project might be vulnerable to climate change aspects such as water scarcity placing strain on water-intensive processes on the mine as well as possible strain on water resources that can cause friction between the mine and communities. A hotter climate creates a favourable environment for communicable diseases that could affect the workers and the changes in temperature also place strain on electricity to heat and cool working spaces. Mitigation measures will be implemented based on BFS recommendations.

Social

With the inclusion of the additional area into the mine area will extend the LoM which will ensure job security for a longer period of time.

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Information Gaps, Assumptions and Limitations

Information contained in this EIA/EMP Report is based on technical information received from the client, as well as the outcomes of the Specialist Studies undertaken. The Specialist Studies undertaken were conducted on the basis of the information available at the time. The Specialist Studies undertaken only took into account the area identified for infrastructure placement.

The option to switch from a Greenfields TSF option to that of a Brownfields TSF option occurred after the majority of the studies had been completed. A change in the assessment criteria would have resulted in additional cost time being required for the Specialists to address these changes. Due to the nature of this project and the fact that the identified impacts associated with the Greenfields TSF would be less significant than that of the Brownfields TSF, it was determined by the client in agreement with the Environmental Assessment Practitioner (EAP) that sufficient information regarding the Brownfields TSF site is available. The monitoring programme as presented in the EMP has to be implemented to determine whether this assumption proves to be correct, if not, detailed studies will have to be initiated.

The following gaps in information were identified:

Geohydrological (Groundwater) Assessment

Groundwater levels in the Archaen Witwatersrand Supergroup aquifer are currently unknown. Monitoring boreholes (deep core boreholes) should be drilled and equipped with pressure gauges. Infill drilling/exploration boreholes may be used for this purpose. Regular pressure readings must be taken to monitor changes in the groundwater table. Where possible, these boreholes should be placed throughout the mine to assess the regional groundwater table. It is initially advised that 4 boreholes be drilled to mining depth. Deep boreholes must be drilled in strategic areas such as the shaft or decline area, into the De Bron Fault and proposed underground workings. Flow logging should also be performed on the newly drilled boreholes. The purpose of performing flow logging is to determine aquifer parameters (T-values), identify preferential flow paths and depth of major water strikes that are intersected. Testing of boreholes sections must take place as drilling proceeds, prior to casing installation and/or grouting. Once all the data has been collected, the site conceptual model should be verified and updated using the new information. The numerical groundwater model should then also be update with the newly collected data.

Visual Impact Assessment

No visual impact assessment and modeling has been undertaken to date as infrastructure placement has not yet been finalized. As such the visual impact assessment can only be undertaken once the exact location of the project related infrastructure has been confirmed.

To evaluate the impacts of the proposed activity, the inherent scenic value of the landscape first needs to be determined. Data collected during a site visit would allow for a comprehensive description and valuation of the receiving environment. The following method should be used for the project:

- Site visit - one field survey should be undertaken and the study area scrutinized to the extent that the receiving/impacted environment can be documented and adequately described;
- Project components - the physical characteristics of the project components must be described and illustrated;
- Determine the setting, visual character and land use of the area surrounding the proposed tailings facility, and the sense of place;
- Define the extent of the affected visual environmental, the viewing distance and the critical views/visual receptors that may be affected by the proposed project;
- Determine the Visual Absorption Potential (ability of the landscape to accommodate the proposed project from a visual perspective);
- The significance of the visual impacts and landscape impacts must be assessed;
- Rate the impact on the visual environment of the proposed development; and
- Suggest measures that could mitigate the negative impacts of the proposed SOFS (DBM) Mining Operation.

The environment in the vicinity already has several mining infrastructure in place where visual and landscape impacts are not known to be significant.

Noise Impact Assessment

No noise impact assessment has been undertaken to date as infrastructure placement has not yet been finalized. As such the noise impact assessment can only be undertaken once the exact location of the project related infrastructure has been confirmed.

A noise survey should be carried out in order to:

- Determine the prevailing ambient noise levels in and around the SOFS project area;
- Project the noise impact of the proposed mining method and activities on the environment and identified noise sensitive areas; and
- Recommend engineering control measures to minimise the projected noise impact into the environment and the abutting residential areas.

Blasting and Vibration Assessment

No blast and vibration assessment has been undertaken to date due to the stage of development of the project. Detailed assessements will be undertaken based on BFS recommendations.

Specific aspects that need to be addressed prior to any construction activities being initiated on site include the following:

- Potential for property damage as a result of blast and vibration events;
- Pre-blasting and post-blasting crack surveys need to be undertaken; and
- Additional issues that need to be assessed include the potential impact of blasting and vibration impacts on the existing adjacent underground operations and associated infrastructure.

Socio-Economic Assessment

An assessment of property values of surrounding properties/small holdings must be undertaken prior to any construction activities being initiated. This is essential in addressing the concerns raised by selected I&APs in the public meetings.

SOFS DBM Project Extension Information Gaps and Limitations

The current plan for SOFS DBM Project Extension does not include any infrastructure and the mine layout and requirements have not been finalised. Therefore, only a baseline can be determined in more detailed impact assessments should be done if there are any changes to the current mine plan.

Benefits of the Project

Local Market

Rand Refinery (South Africa) is one of the largest gold refineries globally and is currently refining 100% of newly mined gold and silver in South Africa, and 75% of all the gold mined in Africa. The core product from the SOFS Mining Operation will therefore most likely be sold to the Rand Refinery.

Regional and International Markets

All gold produced locally will be sold to the Rand Refinery. No gold will be sold to other regional or international markets.

Local Municipalities

Following initial consultation with the Matjhabeng and Masilonyana Local Municipalities, regarding needs and priorities, as identified by their Integrated Development Plans (IDPs), the following projects were put forward as requiring further investigation:

- Virginia Farm; and
- Tikwe Lodge to be turned into Eco Tourism, Events Hosting and Agricultural Training.

Wits Gold is also investigating the possibility of taking over projects that are currently being phased out by Harmony Gold.

The DMR has offered to co-ordinate the prioritisation of Local Economic Development (LED) projects with Wits Gold, the relevant municipalities and existing mines in the area. The DMR further requested that additional projects be identified based on new IDP documents that are being finalised by the abovementioned Local Municipalities. Meetings have been initiated with the Matjhabeng Municipality for discussions based on their recently released draft IDP document for the 2012-2016 period. Once the DMR has, in principle, approved of the selected (LED) projects, further consultation with the Local Municipalities and relevant stakeholders will take place to finalise the project implementation requirements as well as the way forward once the Mining Right has been granted.

Small, Micro and Medium Enterprises (SMME) development

Wits Gold will contribute towards mine community economic development by using available Black Economic Empowerment (BEE) compliant companies for the provision of goods and services to the mine. Wits Gold is committed to awarding procurement contracts to companies which demonstrate suitable Historically Disadvantaged South Africans (HDSAs) participation in Management (and general employment) as well as local companies in order to sustain the local economy of the area.

Wits Gold intends to support Small, Micro and Medium Enterprises (SMMEs) where possible, which will be able to provide them with the relevant services. These SMMEs will be appointed on a contractual basis, on the condition that their services are relevant and the quality thereof, acceptable.

Housing and living conditions

In order to reduce single sex accommodation and to prevent the establishment of hostel accommodation, Wits Gold proposes to use local labour to construct houses on available land for purchase by the mine's employees. Housing allowances will be provided to staff and local housing within the towns of Virginia, Theunissen, Meloding and Welkom will be used as far as possible.

The Applicant will promote home ownership; therefore employees will be afforded the opportunity to participate in wealth accumulation through the ownership of property. It is believed that this will in the long term ensure that housing is sustainable even after mine closure. The Company will facilitate housing development in the host municipality area to ensure adequate and acceptable housing and living conditions of the employees. It is believed

that this will build a sustainable economy and quality of life of the host community through integration of employees housing needs into the host municipality's housing and settlement plans.

The Company aims to improve the quality of life of all employees and restore the self-respect and dignity of employees in line with the Mining Charter and the aspirations of employees through:

- Conducting individual assessments with employees to determine their current and aspired housing conditions;
- Encouraging employees to take home ownership in existing sustainable areas;
- Establishing an open communication process whereby employees may communicate any problems and suggestions with regards to their housing needs;
- Facilitating the development of housing options that will accommodate employees housing needs;
- Providing programmes to educate employees with regard to home ownership and budgeting; and
- Facilitating private investment from developers and/or banks for assisting home owners.

Provision will be made for a R10,000,000.00 investment over 5 years to improve on the housing conditions of mine workers.

Nutrition

In order to ensure that employees are aware of the advantages of a balanced diet, nutrition awareness will be promoted through a Wellness Programme.

The Company will adopt a comprehensive approach to address nutrition and this will be addressed in the employee Wellness Programme, which will be developed as part of the implementation plan of the Social and Labour Plan (SLP). It is envisaged that the employee Wellness Programme will enhance the standard of living of all employees.

The employee Wellness Programme will focus on:

- Nutrition, where staff will be advised on healthier eating habits which will include:
    - Measures to improve nutrition, which will be done in accordance with the standards set out by the Chamber of Mines of South African Health Standards Authorities;

  - Inducting and informing all employees on the National food based dietary guidelines. The intention will be that employees themselves acknowledge that each one has a role to be conscious of healthy eating habits;
- Educating employees and their families with regard to nutrition and wellness programmes with emphasis on HIV/AIDS and Tuberculosis, and provide information on common injuries that cause back pains;
- Wellness workshops which will include nutrition, exercise, stress management etc;
- Wellness incentive programme: Reward employees for making positive choices; and
- Providing health supplements to employees.

The Company will retain the services of a specialist healthcare services provider in order to compile a comprehensive wellness strategy which will integrate with community health issues. The strategy will include a health improvement programme that will address nutritional wellness, body wellness, emotional wellness and social issues.

No-Go Principle

If the no-go principle were applied, then the area in which the proposed SOFS Phase 1 (DBM Project) Mining Operation is located would continue with the land use and activities that are currently in place, namely commercial agriculture activities. The potential job creation benefit of the project (±1,635 jobs over the life of mine) would not materialise and the opportunity to employ women in mining, as per the requirements of the MPRDA, would also not occur. In addition the potential loss of contribution to economic development in the project area as well as compliance with the regions IDP, based on the SLP developed for the project, would be limited.

The no-go option would ensure that there would be significantly less environmental impacts in the area as a result of mining operations. Impacts would only be related to the existing mining operations within the Virginia area, specifically the Harmony gold mining operation located to the north west of the proposed project area. In addition to this, the existing Harmony Merriespruit TSF would remain as is, with minimal rehabilitation potential.

The continuation of commercial agriculture activities, as are currently taking place, would ensure that the current status quo in terms of revenue, economic contributions, employment and housing would continue. The potential expansion of these commercial agriculture enterprises would be limited to the areas currently being used specifically since the establishment of informal housing within the area is already evident.

If mining was not undertaken in the project area, the area could be utilised for housing developments and, potentially, other small, medium and large scale commercial opportunities. Alternatively, small-scale agricultural developments could take place (i.e. crop and livestock farming).

No—Go Option for SOFS DBM Project Extension

If the no-go principle is applied for the SOFS DBM Project Extension area the current land use of agricultural use and residential will continue. In similar vein, the activities would also continue if the project does commence. The underground mineral resources would not be utilised and the sterilisation of the mineral resource is possible. This may reduce LoM, and potenatially negatively impact on job creation.

Motivation for Project

The SOFS Phase 1 (DBM Project) Mining Operation will ensure:

- Provision of sustainable employment (retention);
- Ongoing economic input into the area;
- Provision of a regional socio-economic benefit;
- Economic injection into the region in terms of small business enterprises (e.g. community services); and
- Ongoing supply of gold to the local and international markets.

The EAPs and environmental consultants responsible for the PPP and compilation of this document are of the opinion that the SOFS Phase 1 (DBM Project) Mining Operation should be approved, on condition that the applicant implements all identified management measures, implements the monitoring and rehabilitation plan, as well as addresses all identified information gaps. In addition the applicant must implement the social and labour plan as approved by the DMR.

In addition, the Company must continue with public consultation in order to ensure that the communities surrounding the operation are informed of developments on site throughout the life of mine. A detailed communication strategy must be developed and implemented together with the development of a complaints register to be kept on site for the life of mine.

Motivation for SOFS DBM Project Extension

The addition of the new proposed properties into the mine area and mine planning will increase the LoM for the SOFS project and prevent the sterilisation of the underground minerals. The increased LoM. With the increase in LoM, employment security would be higher.

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LIST OF ABBREVIATIONS/ACRONYMS

ABA	Acid Base Accounting
Al	Aluminium
AM	After Midnight
APPA	The Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965)
As	Arsenic
BBSEC	Broad Based Socio-Economic Empowerment Charter
BEE	Black Economic Empowerment
BFS	Bankable Feasibility Study
BID	Background Information Document
$CaCO_3$	Total Hardness / Calcite
Cl	Chloride
Cr	Chromium
CR	Critically Endangered
Cu	Copper
dBA	A-weighted decibels
DBM	De Bron Merriespruit
DD	Data Deficient
DEA	Department of Environmental Affairs
DEM	Digital Elevation Model
DMR	Department of Mineral Resources
DMS	Dense Medium Separation
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
EC	Electrical Conductivity
ECA	The Environment Conservation Act, 1989 (Act No. 73 of 1989)
EIA	Environmental Impact Assessment
EMP	Environmental Management Programme
EN	Endangered
F	Fluoride
Fe	Iron
GCS	GCS Water and Environment (Pty) Ltd
GDP	Gross Domestic Product
ha	Hectare
HDSA	Historically Disadvantaged South Africans
HIA	Heritage Impact Assessment
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IDP	Integrated Development Plan/Programme
IFC	International Finance Corporation
I&APs	Interested and Affected Parties
IUCN	International Union for Conservation of Nature

IWULA	Integrated Water Use License Application
IWWMP	Integrated Waste and Water Management Plan
km	kilometre
LED	Local Economic Development
LM	Local Municipality
LOM	Life of Mine
LSU	Large Stock Unit
mamsl	Meters above mean sea level
MAP	Mean Annual Precipitation
MAR	Mean Annual Runoff
MRA	Mining Right Application
MPRDA	The Mineral and Petroleum Resources Development, 2002 (Act No. 28 of 2002)
NAG	Net Acid Generating
NECSA	Nuclear Energy Corporation of South Africa
NEMA	The National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM:BA	The National Environmental Management: Biodiversity Act (Act No. 10 of 2004)
NEM:AQA	The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NGA	National Groundwater Archive
NHRA	The National Heritage Resources Act, 1999 (Act No. 25 of 1999)
Ni	Nickel
NWA	The National Water Act, 1998 (Act No. 36 of 1998)
NEM:WA	The National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
OHS Act	The Occupational, Health and Safety Act, 1993 (Act No. 85 of 1993)
Pb	Lead
PM	Past Midday
PM_{10}	Particulate Matter
PPP	Public Participation Process
ROM	Run of Mine
PCD	Pollution Control Dam
PFS	Pre-Feasibility Study
POSA	Plants of Southern Africa
SANBI	South African National Biodiversity Institute
SANS	South African National Standards
SAR	Sodium Absorption Ratio
SAWS	South African Weather Services
SLP	Social and Labour Plan
SMME	Small, Micro and Medium Enterprises
SOFS	Southern Orange Free State
TDS	Total Dissolved Solids
TFR	Transnet Freight Rail

TIA	Traffic Impact Assessment
TSF	Tailings Storage Facility
TSP	Total Suspended Particulates
USEPA	United States Environmental Protection Agency
VU	Vulnerable
WMA	Water Management Area
XRD	X-ray Diffraction

1 INTRODUCTION AND BACKGROUND

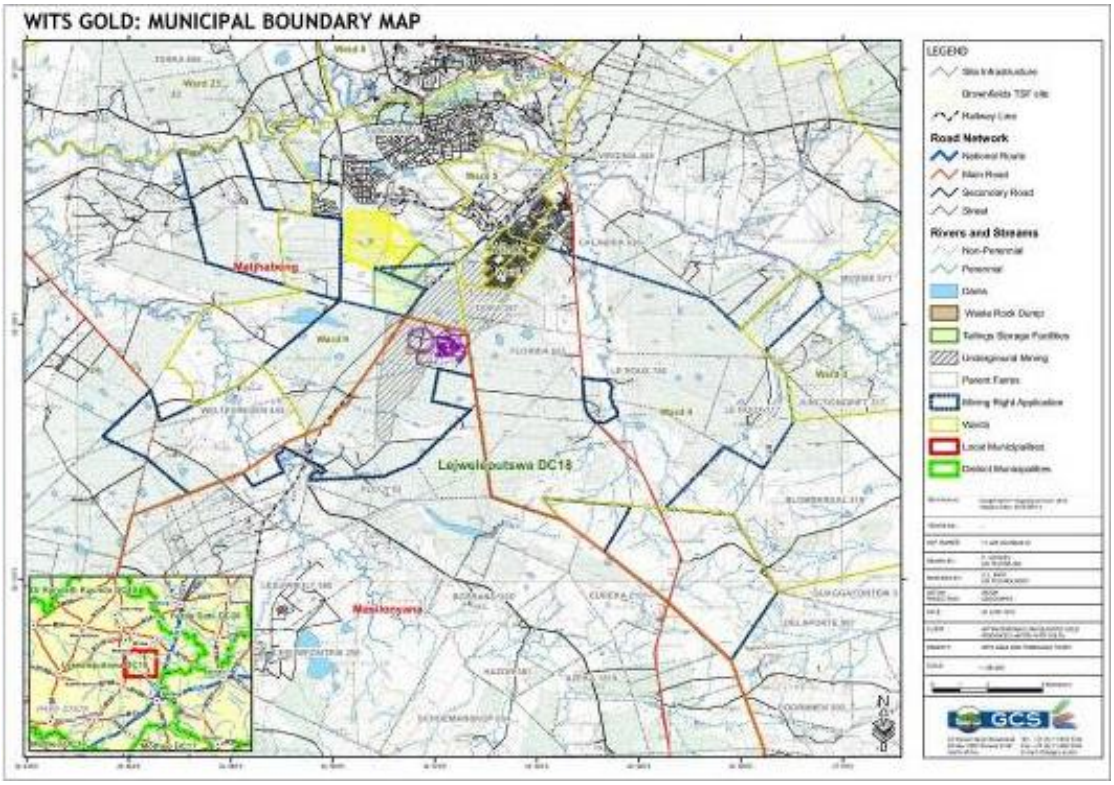
1.1 Background

Witwatersrand Consolidated Gold Resources (Pty) Ltd (herein after referred to as "Wits Gold", "the Applicant" or "the Company") is currently an indirect subsidiary of Sibanye Stillwater limited. Wits Gold prior to being taken over by Sibanye Stillwater applied to the Department of Mineral Resources and Energy (DMRE) for a mining right, which was subsequently granted on 25 February 2014. The mining right covers a total of 17022.00 hectares (ha) in three goldfields, namely the Southern Free State (SOFS), Potchefstroom and Klerksdorp goldfields. This document pertains to Phase 1 of the SOFS Mining Operation, namely the DBM Project, which covers an area of 4,024 ha.

The mining right commenced on 14 June 2017 for a period of 23 years. On 30 November 2018, Wits Gold submitted an application in terms of s102 of the Mineral and Petroleum Resources Development Act (MPRDA) for Ministerial consent to include Portion 1, Portion 8, Portion 9, Portion 10, Portion 11, Portion 14, Portion 15, Portion 18, Portion 19, Portion 22, Portion 25, Portion 28, Portion 29 (underground), remainder of the Farm Stilte 138, remainder of the Farm Dora 287, Portion 1 and a Portion of the remainder of the farm Mooiuitzig 352, a Portion of the remainder of the Farm Schoonnheid 540, a Portion of the Farm Kaallaagte 562 into the SOF S mining right that had previously been erroneously excluded.

The project is located within the following District and Local Municipalities (**Figure 1-1**):

- Lejweleputswa District Municipalities;
- Matjhabeng Local Municipality; and
- Masilonyana Local Municipality.



(Figure not to scale. Please refer to Appendix A for the A3 figure.)

Figure 1-1: Municipal Map of the Proposed SOFS Mining Operation.

The DBM Project Extension of the SOFS Projects includes the amendment of the Mining Right, EA and EMPR to include the omitted properties as underground mining area without any planned surface Infrastructure. SOFS DBM Project Extension is located within the Matjhabeng Local Municipality. Figure 1-2 **provides a locality of the properties proposed for the amendment application.**

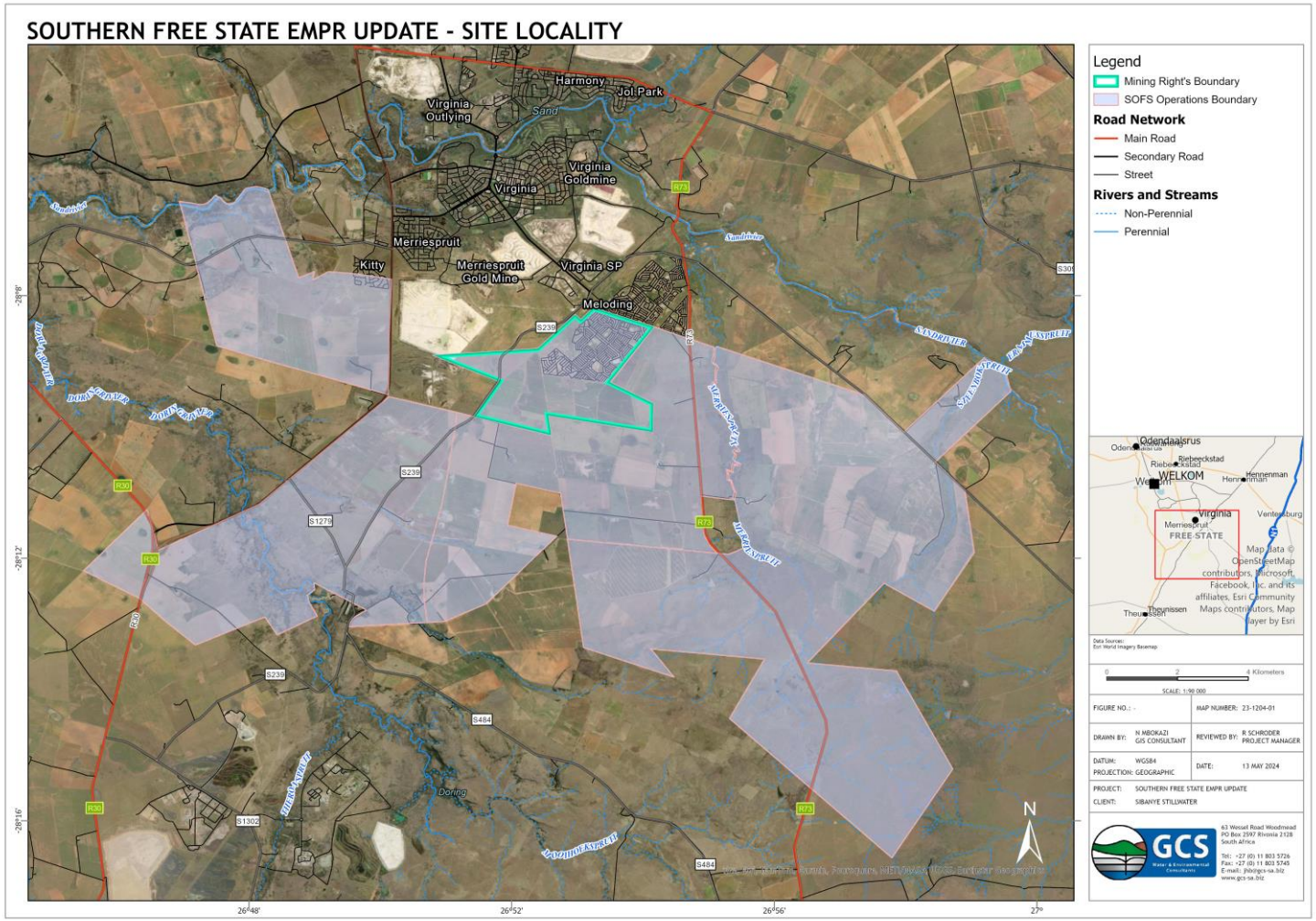


Figure 1-2: Southern Free State EMPR Update site locality within the existing Mining Right Area

1.2 Brief Project Description

Phase 1 of the SOFS Mining Operation, namely the DBM Project, is situated in the Free State Province of central South Africa and is south of the town of Virginia (28°70"S, 26°54"E); whilst the closest major towns to Virginia are Welkom (24 km North-West) and Bloemfontein (136 km South-West), Virginia is approximately 270 km by national road from Johannesburg. It is important to note that the DBM Project extends over numerous farms and/or Prospecting Rights and a portion of the area used to form part of the Harmony Merriespruit Mine lease area that was unmined. This area will be included in the Mining Right Application area once transfer the properties to Wits Gold is notarially executed. Underground mining methods will be implemented at depths starting from 480 metres below surface. Mining is currently planned to be undertaken using narrow reef breast mining approach common to the gold mines of South Africa. Support for the mining will be from a trackless footwall infrastructure below the Leader Reef (bottom reef horizon). This is less common but not unique in underground South African gold mines.

The primary access route to the DBM Project is the N1 national road or freeway; with tarred, main roads (R73, R70 and R34) branching off this freeway. The Wits Gold properties are intersected approximately 86 km from the N1/R34 turnoff (or 21 km via a direct gravel road from the same junction).

The project zone of influence will extend to the township of Meloding, which is approximately 1.8 km from the proposed shaft area. The TSF location is proposed to be situated on an existing Brownfield Tailings Storage Facility (TSF) in the area. The final option will depend on agreements between all affected parties and relevant government approvals. This aspect will be assessed and discussed in more detail during the EIA phase of the project. Access to the mine will probably be via a portal decline and vertical shaft combination, or a twin vertical shaft system. The Engineering Scoping Study envisaged that the decline would be used to transport all rock to surface while men and materials would be transported via the vertical shaft. This mine design was refined and modified in the pre-feasibility study, where a twin vertical shaft system was proposed.

The mining right commenced on 14 June 2017 for a period of 23 years. On 30 November 2018, Wits Gold submitted an application in terms of s102 of the Mineral and Petroleum Resources Development Act (MPRDA) for Ministerial consent to include Portion 1, Portion 8, Portion 9, Portion 10, Portion 11, Portion 14, Portion 15, Portion 18, Portion 19, Portion 22, Portion 25, Portion 28, Portion 29 (underground), remainder of the Farm Stilte 138, remainder of the Farm Dora 287, Portion 1 and a Portion of the remainder of the farm

Mooiuitzig 352, a Portion of the remainder of the Farm Schoonnheid 540, a Portion of the Farm Kaallaagte 562 into the SOF S mining right that had previously been erroneously excluded.

1.3 Description of the Land

1.3.1 Applicant Contact Details

The applicant's contact details are provided in **Table 1-1**.

Table 1-1: Applicant Contact Details

Name of the Applicant	Witwatersrand Consolidated Gold Resources (Pty) Ltd (wholly owned subsidiary of Sibanye Gold Limited t/a Sibanye Stillwater)
Contact Person	Mr, Sylvester Nkwe
Postal Address	P.O Box 190 Westonaria 1780
Email	Sylvester.nkwe@sibanyestillwater.com
Telephone	079 964 3356

1.3.2 Description of Land and Land Ownership

The proposed SOFS (Phase 1 DBM Project) mining operation surface infrastructure is currently being planned to be located within the following farm portions (**Table 1-2**):

Table 1-2: Registered Surface Rights Owners

LAND OWNER	FARM	MAGISTERIAL DISTRICT	PORTION	TITLE DEED	SG CODE
Andries Benjamin Pienaar	Florida 633	Ventersburg	1	T11996/1979	F03500000000063300001
Andries Benjamin Pienaar	Florida 633	Ventersburg	4	T28107/1998	F03500000000063300004
Johan van Huysteen	Welgeleggen	Theunissen	RE2	T1072/1986	F03300000000038200002
Piet Nieman	Welgeleggen	Theunissen	24	T5581/1997	F03300000000038200024

Please refer to **Figure 1-1** for the location of the farm portions as it relates to the SOFS Mining Rights Boundary and refer **Figure 1-3** to for the proposed Phase 1 TSF, plant and shaft.

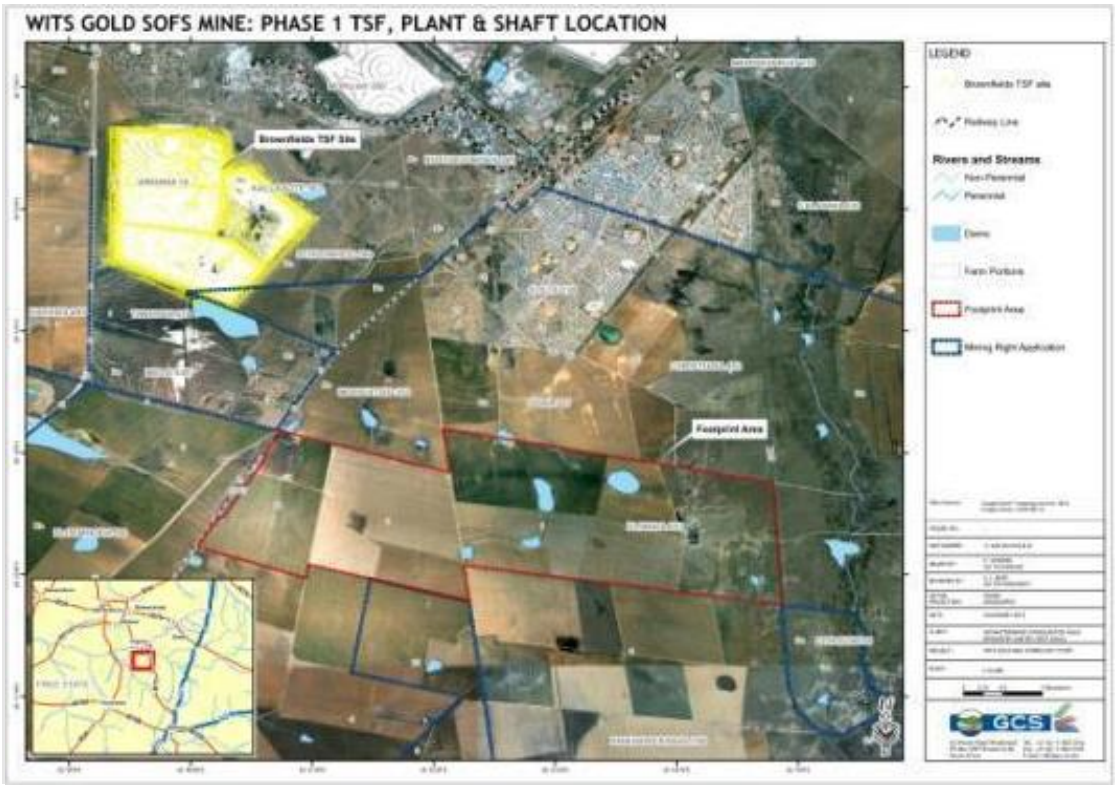


Figure 1-3: Proposed Phase 1 TSF, plant and shaft

The proposed SOFS DBM Project Extension will include the following omitted properties as per Table 1-3. Figure 1-4 **provides a map of the area to be included of underground mining.**

Table 1-3: Property and Landowner information for the SOFS DBM Project Extension

LAND OWNER	FARM	MAGISTERIAL DISTRICT	PORTION	TITLE DEED	SG CODE
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 1,	T6450/1954	F03500000000013800001
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 9,	T16941/2009	F03500000000013800009
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 22	T25103/2001	F03500000000013800022
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 8	T16940/2009	F03500000000013800008
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 10	T16942/2009	F03500000000013800010
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 11	T16943/2009	F03500000000013800011
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 19	T3231/2001	F03500000000013800019
Virginia Plaaslike Oorgangsraad	Stilte 138	Ventersburg	Portion 14	T29015/2000	F03500000000013800014
Virginia Plaaslike Oorgangsraad	Stilte 138	Ventersburg	Portion 15	T29009/2000	F03500000000013800015

Virginia Plaaslike Oorgangsraad	Stilte 138	Ventersburg	Portion 18	T29012/2000	F03500000000013800018
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 25	T12050/2010	F03500000000013800025
Matjhabeng Local Municipality	Stilte 138	Ventersburg	Portion 28	T12053/2010	F03500000000013800028
No Information	Stilte 138	Ventersburg	Portion 29	Not Available	F03500000000013800029
Matjhabeng Local Municipality	Dora 287	Ventersburg	Portion 0	T16414/2021	F03500000000028700000
Matjhabeng Local Municipality	Mooiuitzig 352	Ventersburg	Portion 0	T16414/2021	F03500000000035200000
Transnet	Mooiuitzig 352	Ventersburg	Portion 1	T5413/1993	F03500000000035200001
Matjhabeng Local Municipality	Schoonnheid 540	Ventersburg	Portion 0	T17706/1997	F03500000000054000000
HARMONY GOLD MINING CO LTD	Kaallaagte 562	Ventersburg	Portion of Portion	T2404/1927	F03500000000056200000

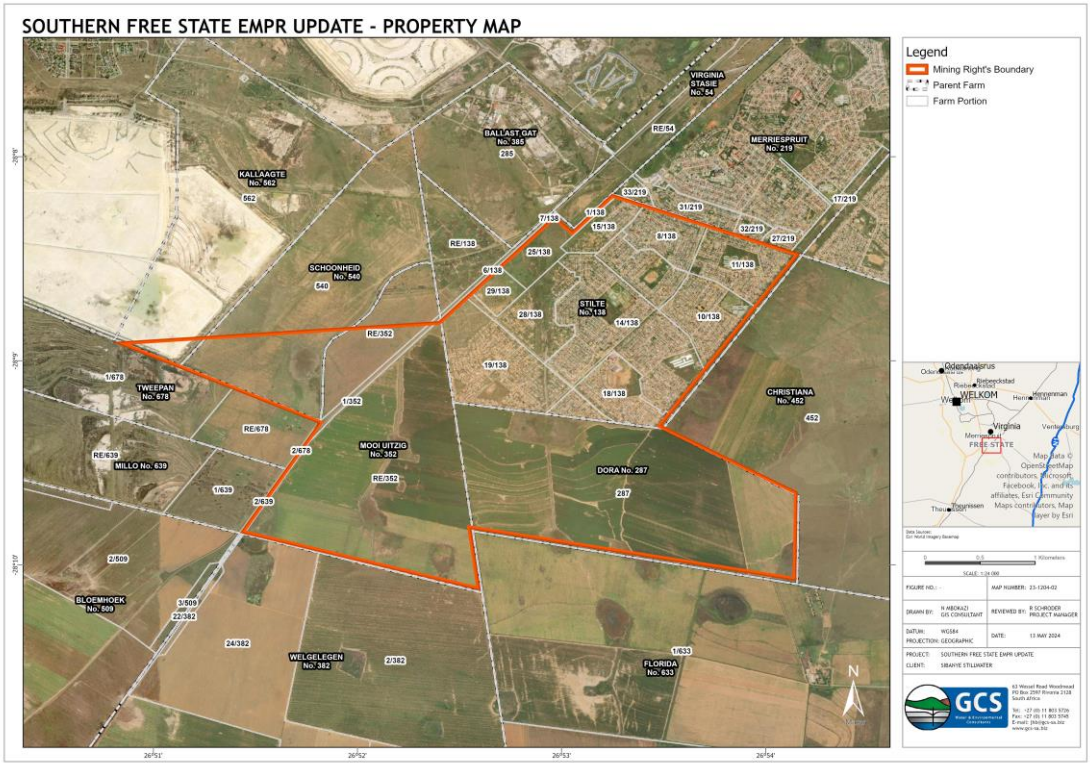


Figure 1-4: Properties to be included in the amendment for SOFS DBM Project

1.4 Environmental Process

The project environmental process was undertaken in accordance with the MPRDA in order to develop an EIA/EMP Report in support of the MRA submitted to the DMR, Free State Province. The various environmental authorisation processes being followed for this project are described in the sections that follow.

1.4.1 MPRDA Process

The environmental authorisation process required in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA) will address the project as a whole including all activities related to the proposed SOFS Mining Operation. The Environmental Impact Assessment and Management Programme (EIA/EMP) developed in terms of the MPRDA will address all the environmental impacts and proposed management measures associated with the planned mining operation, as well as provide background on the current environmental conditions on site. This EIA/EMP will comply with the requirements of the MPRDA and the DMR for an EIA/EMP developed as a prerequisite of a Mining Right Application area, prior to the commencement of construction and mining phases of the project.

The mining Right was issued in April 2014, prior to One Environmental System therefore the issuance of the Mining Right and acceptance of the EMPr provided the authorisations to commence under the MPRDA.

Since the commencement of the One Environmental System came into effect on 8 December 2014, the DMRE is now the Competent Authority for mining-related activities which includes the issuance and amendments of Environmental Authorisations (EA).

A Section 102 amendment process under the MPRDA is now undertaken to include the new proposed properties for SOFS DBM Project Extension into the existing Mining Right.
The Environmental Authorisation (EA) was issued by the Department of Environmental Affairs on the 4th of July 2014. An appeal was lodged against the EA which was, after an investigation and representations, set aside by the Minister of Environmental Affairs.

1.4.2 NEMA Process

The environmental authorisation process required in terms of Section 24 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) requires that all listed activities (e.g. construction, infrastructure development, transportation routes, etc.) identified in all phases of the project, which may impact on the environment must obtain an environmental authorisation from a relevant authority before commencement with such activities can be initiated. The specific listed activities are detailed under the NEMA Regulations 544 and 545, dated 2 August 2010, which repeal Regulation 386 and 387 (dated 21 April 2006) of NEMA. In terms of the SOFS Phase 1 (DBM Project) Mining Operation, the

National Department of Environmental Affairs (DEA) is regarded to be the competent authority for environmental authorisations required in terms of the NEMA, and as such all applications in terms of NEMA will be completed and sent to the DEA for assessment and authorisation. The EIA/EMP developed in respect of the NEMA will comply with the requirements of the NEMA and the DEA. This process can only be initiated once the Prefeasibility Study (PFS) report (received Monday, 30 July 2012) has been reviewed by GCS to confirm the listed activities that will require authorisation for the SOFS Phase 1 (DBM Project) Mining Operation. The Environmental Authorisation was granted on the 4th of July 2014.

A "Part 2" (Substantive change) amendment process as described in Regulation 31 is required, in which the changes in environmental impacts must be assessed for the new area that was not included in the original Application.

1.4.3 Integrated Water Use License Application Process

According to the National Water Act, 1998 (Act No. 36 of 1998) (NWA), water may not be used without prior authorisation from the leading authority, in this case the Department of Water Affairs (DWA). Due to the requirements of the NWA, an Integrated Water Use License Application (IWULA) will be compiled for the SOFS Phase 1 (DBM Project) and submitted to the DWA to ensure the legality of the identified water uses associated with the proposed operation.

The water uses, in terms of Section 21 of the NWA, that may be applied for by the applicant include the following:

- Section 21(a) - Taking water from a water resource;
- Section 21(b) - Storing water;
- Section 21(c) - Impeding or diverting the flow of water in a watercourse;
- Section 21(d) - Engaging in a stream flow reduction activity contemplated in Section 36;
- Section 21(e) - Engaging in a controlled activity identified as such in Section 37(1) or declared under section 38(1);
- Section 21(f) - Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;
- Section 21(g) - Disposing of waste in a manner which may detrimentally impact on a water resource;
- Section 21(h) - Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process;

- Section 21(i) - Altering the bed, banks, course or characteristics of a watercourse;
- Section 21(j) - Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and
- Section 21(k) - Using water for recreational purposes.

In addition to the IWULA an Integrated Water and Waste Management Plan (IWWMP) will also be developed and submitted to the DWA for assessment and authorisation. The IWULA and IWWMP developed in respect of the NWA will comply with the requirements of the NWA and the DWA. This process can only be initiated once the PFS report is complete as the PFS is required to confirm the water uses that will require authorisation for the SOFS Mining Operation.

Currently the SOFS DBM Project Extension planning does not include additional infrastructure and the possible water uses that would require water use authorisation include Section 21(j) for the removal of water for the safety of the workers and Section 21 (a) for using the abstracted water. Water use authorisation would be obtained once the possible uses are finalised during the BFS.

1.4.4 Other Applicable Legislation

The environmental component of the project will also comply with the requirements of, *inter alia*, the following legislation and the Regulations promulgated there under:

- The Constitution of South Africa, 1996 (Act No. 108 of 1996);
- The Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA);
- The Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965) (APPA);
- The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM:AQA);
- The National Environmental Management: Waste Act, 2008(Act No. 59 of 2008) (NEM:WA);
- The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM:BA);
- The National Nuclear Regulator Act, 1999 (Act No. 47 of 1999) (NNR); and
- The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA).

The objectives of the environmental processes undertaken is to identify the positive/negative impacts associated with the proposed operation as well as to propose potential mitigation/management measures that may lessen the identified impacts. In order to mitigate potentially negative impacts and to identify any potential fatal flaws that may

render the project environmentally unacceptable, GCS have adopted an integrated, step-by-step process to identify issues of concern and to thoroughly investigate these issues. The environmental impact assessment undertaken will address all phases related to the proposed mining operation, which include the following phases:

- Pre-construction Phase;
- Construction Phase;
- Operation Phase; and
- Closure and Decommissioning Phase.

To ensure that the negative impacts are identified and mitigated in the early stages of the project, and that the positive impacts are maximised, it will be necessary for the environmental study to meet the following aims:

- Follow the guideline process as outlined by the NEMA and the MPRDA;
- Provide input in the feasibility phases, where possible, to ensure that the most technically feasible, and environmentally sound options are selected;
- Ensure that impacts are identified early through investigations to minimise environmental damage and maximise benefits;
- Appoint sound and competent specialist to investigate the required environmental components;
- Conduct thorough specialist investigations that will allow the project team to develop an adequate understanding of the issues to be dealt with;
- Compile an EIA that will identify, evaluate and address the potential impacts;
- Provide ongoing environmental input into the project planning and development;
- Compile an EMP that will limit the significance of the negative impacts and maximise the positive aspects;
- Provide the regulatory authority with sufficient and confident information in order to make an informed decision;
- Provide a detailed project statement in terms of the recommendation by the Environmental Assessment Practitioner;
- Ensure that all relevant Interested and Affected Parties (I&APs) and/or Stakeholders are consulted and involved throughout the project; and
- Ensure that an open and transparent communication structure is in place during the life of the SOFS Mining Operation.

1.5 Environmental Assessment Practitioner

In terms of Section 17 of the NEMA, the applicant has to appoint Environmental Assessment Practitioners (EAPs) before applying for an environmental authorisation of any activity listed

in terms of GN 544 and 545. For this purpose Wits Gold has appointed GCS (Pty) Ltd (GCS) to undertake the necessary environmental assessments and to ensure that all legislative requirements are adhered to as part of the environmental authorisation processes. See Appendix E for the GCS Company Profile.

GCS provides a professional, independent consulting service in the fields of water, environmental, engineering and earth sciences. The GCS team consists of highly trained staff that has extensive experience in the fields of geohydrology, hydrology, pedology, engineering geology, engineering and environmental science.

GCS have considerable experience in Southern Africa and undertake investigations for environmental assessments. The environmental scientists carry out all aspects of environmental assessments and management programmes.

GCS was founded in 1987 and the broad GCS client base ranges from individuals, engineers, municipalities and mines, to Independent States and Governments. GCS is an independent practice, which is wholly owned by the partners of the company.

GCS is an independent environmental consulting firm and has undertaken the EIA/EMP Report development. GCS is also responsible for the updated Public Participation Process (PPP) (Section 5, and Appendix F) pertaining to the proposed operation.

GCS is fully BEE compliant with an empowerment scorecard rating of 8.

1.6 Reporting

Based on the outcome of the Environmental Scoping Phase, an EIA/EMP Report must be submitted to the DMR for consideration and approval within 6 months of acceptance of the MRA.

1.6.1 Environmental Impact Assessment (EIA)

The EIA portion of the report must determine the nature, extent, duration, probability, significance and status of the environmental, social and cultural impacts of the project, the assessment of reasonable alternatives and the required mitigation measures for each impact during the life of the mine. An EIA report must contain all information that is necessary for the competent authority to consider the application and to reach a decision regarding the project. The EIA must therefore include the following (as per GN 543 of NEMA):

a) Details of –
   i. The EAP who compiled the report;
   ii. The expertise of the EAP to carry out an environmental impact assessment.
b) A detailed description of the proposed activity;
c) A description of the property on which the activity is to be undertaken and the location of the activity on the property, or if it is -
   i. A linear activity, a description of the route of the activity; or
   ii. An ocean-based activity, the coordinates where the activity is to be undertaken;
d) A description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;
e) Details of the public participation process conducted in terms of sub-regulation (I), including -
   i. Steps undertaken in accordance with the plan of study;
   ii. A list of persons, organisations and organs of state that were registered as interested and affected parties;
   iii. A summary of comments received from, and a summary of issues raised by registered interested and affected parties, the date of receipt of these comments and the response of the EAP to those comments; and
   iv. Copies of any representations, objections and comments received from registered interested and affected parties;
f) A description of the need and desirability of the proposed activity and identified potential alternatives to the proposed activity, including advantages and disadvantages that the proposed activity or alternatives may have on the environment and the community that may be affected by the activity;
g) An indication of the methodology used in determining the significance of potential environmental impacts;
h) A description and comparative assessment of all alternatives identified during the environmental impact assessment process;
i) A summary of the findings and recommendations of any specialist report or report on a specialised process;
j) A description of all environmental issues that were identified during the environmental impact assessment process, an assessment of the significance of each issue and an indication of the extent to which the issue could be addressed by the adoption of mitigation measures;
k) An assessment of each identified potentially significant impact, including -
   i. Cumulative impacts;

ii. The nature of the impact;
iii. The extent and duration of the impact;
iv. The probability of the impact occurring;
v. The degree to which the impact can be reversed;
vi. The degree to which the impact may cause irreplaceable loss of resources; and
vii. The degree to which the impact can be mitigated.

l) A description of any assumptions, uncertainties and gaps in knowledge;
m) An opinion as to whether the activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;
n) An environmental impact statement which contains -
   i. A summary of the key findings of the environmental impact assessment; and
   ii. A comparative assessment of the positive and negative implications of the proposed activity and identified alternatives;
o) A draft environmental management plan that complies with Regulation 33;
p) Copies of any specialist reports and reports on specialised processes complying with Regulation 32; and
q) Any specific information that may be required by the competent authority.

It is the role of the relevant environmental authorities to make a decision on whether the project should proceed or not, based on the information provided in the EIA, and this report therefore cannot make a recommendation on whether the project should proceed or not.

1.6.2 Environmental Management Programme (EMP)

Each specialist was required to identify means of avoiding, mitigating and/or managing the negative impacts in his/her particular aspect of the investigation. The recommended management strategies are synthesised in this report by GCS to formulate the EMP for the proposed listed activities and the operation as a whole. Management strategies are based on extensive knowledge within GCS and the specialists commissioned by GCS. The management measures will be incorporated into the mine systems to avoid, or appropriately manage impacts from the outset.

A draft environmental management plan must include -

a) Details of -
   i. The person who prepared the environmental management programme; and

ii. The expertise of that person to prepare an environmental management programme.

b) Information on any proposed management or mitigation measures that will be taken to address the environmental impacts that have been identified in a report contemplated by these Regulations, including environmental impacts or objectives in respect of -
   i. Planning and design;
   ii. Pre-construction and construction activities;
   iii. Operation or undertaking of the activity;
   iv. Rehabilitation of the environment; and
   v. Closure, where relevant.

c) A detailed description of the aspects of the activity that are covered by the draft environmental management programme;

d) An identification of the persons who will be responsible for the implementation of the measures contemplated in paragraph (b);

e) Where appropriate, time periods within which the measures contemplated in the draft environmental management programme must be implemented; and

f) Proposed mechanisms for monitoring compliance with the environmental management programme and reporting thereon.

The EIA ensures that the needs of the environment (biophysical and socio-economic) are identified. The EMP in turn provides a tool for meeting the objective to reduce or avoid negative environmental impacts associated with a project within a certain environment by providing detailed mitigation measures and management commitments.

All of these sections (i.e. EIA/EMP) will become legally binding on the approval of this report.

The DBM Project and proposed DBM Project Extension (SOFS EMPR Amendment) will share the same infrastructure, be part of the same mining right. The new activities only include underground mining with no planned surface infrastructure or surface activities, it makes sense to include the Amendment activities into the Existing Environmental Management Programme as the impacts and mitigations will be managed together. It makes is more practical to manage ad implement and audit a single EMPr rather than having duplicate documents that need to be implemented, monitored and audited.

1.6.3 Reporting Structure (EIA/EMP)

The EIA/EMP Report has been compiled to identify the impacts associated with the mining activities and to determine the management measures that need to be implemented. The structure of the report is based on that of a complete EIA/EMP Report and contains the following sections:

Chapter 1: Background and Introduction

- This chapter provides a description of the location and the land ownership of the mine, as well as the purpose, approach and methodology followed for the completion of this project.

Chapter 2: Detailed Project Description

- This chapter provides a detailed description of the proposed project and how it is planned to be initiated and operated should the environmental investigations be sufficient and thereby approved.

Chapter 3: Project Alternatives

- This chapter details the project alternatives considered for the project and conducts a comparative assessment to indicate why the final option was selected (if required).

Chapter 4: Detailed Environmental Description

- This chapter provides a description of the current environment (which includes the bio-physical and socio-economic components) prior to the commencement of the proposed project.

Chapter 5: Public Participation Process

- This chapter details the process undertaken for stakeholder engagement and provides a discussion on the issues raised and how these will be addressed.

Chapter 6: Identification and Assessment of Environmental Impacts (EIA) and Issues with Management Measures and Action Plans (EMP)

- This chapter outlines the activities of the proposed project and accordingly, the activities the environmental objectives for each stage were identified. In addition this chapter assesses and rates the potential impacts on the environment, prior to the consideration of mitigation measures, as well as the potential impacts after the implementation of the proposed mitigation measures. This chapter also details the required management measures to be implemented during the construction, operational, decommissioning and closure phases.

Chapter 7: Monitoring Management Programme

- This chapter indicates the monitoring and management measures of environmental impacts (i.e. surface water monitoring, groundwater monitoring, air quality monitoring etc.) for the way forward should this project be approved.

Chapter 8: Environmental Emergency Response Plan and Environmental Awareness Plan

- This chapter details procedures for environmental related emergencies and remediation measures and the details for an environmental awareness plan.

Chapter 9: Financial Provision

- This chapter details the financial provision required for the project.

Chapter 10: Environmental Rehabilitation Programme

- This chapter details a proposed rehabilitation plan for the project.

Chapter 11: Identification of Gaps

- This chapter serves to indicate which gaps have been identified and how these should be addressed.

Chapter 12: Undertaking by Client

- This chapter contains the signatures of the authorised Company representative and the regional director from the DMR to make all information contained in EMP legally binding.

Chapter 13: Conclusion

- The conclusion provides a brief discussion on the findings in the report.

The Impact Assessment for the SOFS DBM Project Extension Project is included in each section of the document as additional information to be reviewed and forms part of the inclusive EMPr. The specialist studies and supporting documents for the amendment process are included as Appendices.

2 DETAILED PROJECT DESCRIPTION

Phase 1 of the SOFS Mining Operation, namely the DBM Project, is situated in the Free State Province of central South Africa and is south of the town of Virginia (28°70"S, 26°540"E); whilst the closest major towns to Virginia are Welkom (24 km North-West) and Bloemfontein (136 km South-West) Virginia is approximately 270 km by national road from Johannesburg. It is important to note that the DBM Project extends over numerous farms and/or Prospecting Rights and the northern portion of the area used to form part of the Harmony Merriespruit Mine lease area that was unmined. This area will be included in the Mining Right application area once transfer the properties to Wits Gold is notarially executed. Application for ministerial consent terms of Section 102 of the MPRDA has been granted and the regional office of the DMR is processing the necessary documentation in order to effect the transfer of the rights to Wits Gold.

Ore body mining will be entirely underground at depths starting from 480 metres below surface. Mining is currently planned to be undertaken using narrow reef breast mining approach common to the gold mines of South Africa. Support for the mining will be from a trackless footwall infrastructure below the Leader Reef (bottom reef horizon). This is less common but not unique in underground South African gold mines.

As part of the environmental approval process for a Mining Right application, a Scoping Report has already been submitted to the DMR, Free State Province. The remaining requirement in terms of the environmental approval process, this EIA/EMP Report in terms of the MPRDA is now being submitted to the DMR. The Mining right was issued in April 2014 and the Environmental Authorisation was issued on the 4th of July 2014.

Several properties were omitted from the Mining Right. As these properties form part of the mine plan for underground mining operations it is important to ensure that these properties are included into the Mining Right and Environmental Authorisation.

2.1 Project Area Infrastructure

Existing Infrastructure

There is no underground mining infrastructure on the site. There is however a gravel access road that comes off the R73 Provincial road. The road will be upgraded for 30 tonne delivery trucks.

Initially process, service and potable water will be sourced from Sedibeng Municipality until the mine underground workings are established and able to provide the required service and process water.

Harmony Gold has an existing brownfields Tailings Facility which Wits Gold is in discussions with Harmony to acquire (See Appendix J).

Required Infrastructure

The SOFS Mining Operation (**Figure 2-1**) will consist of underground mining operations, associated workshops and stores. All infrastructure required to support the planned mining operation has been included and allowed for in the capital and operating costs. Infrastructure allowed for includes:

- Water:
  - Bulk water supplies;
  - Surface supply reticulation;
  - Underground supply reticulation;
  - Dirty water pumping and settling;
  - Sewage treatment;
  - Water treatment plant to potable quality; and
  - Brine storage dams.
- Bulk power supplies:
  - Bulk power supplies;
  - Main Eskom yard;
  - Surface reticulation;
  - Underground reticulation; and
  - Emergency generators.
- Surface infrastructure:
  - Buildings;
  - Workshops;
  - Change houses and lamp room;
  - Clinic;
  - Stores and Salvage yard;
  - Core yard/shed;
  - Sewage treatment and disposal;
  - Roads and storm water handling;
  - Ice plant and cooling towers;
  - Metallurgical plant;
  - Rock handling;

  - Tailings disposal facilities; and
  - Waste rock dump.
- Underground infrastructure
  - Workshops;
  - First aid facility;
  - Fire detection;
  - Rescue chambers;
  - Pump station;
  - Trackless footwall development; and
  - Stores.

(Figure not to scale. Please refer to Appendix A for the A3 figure.)

Figure 2-1: Locality Map with the proposed surface infrastructure

2.1.1 Workshops and Offices

2.1.1.1 Workshops

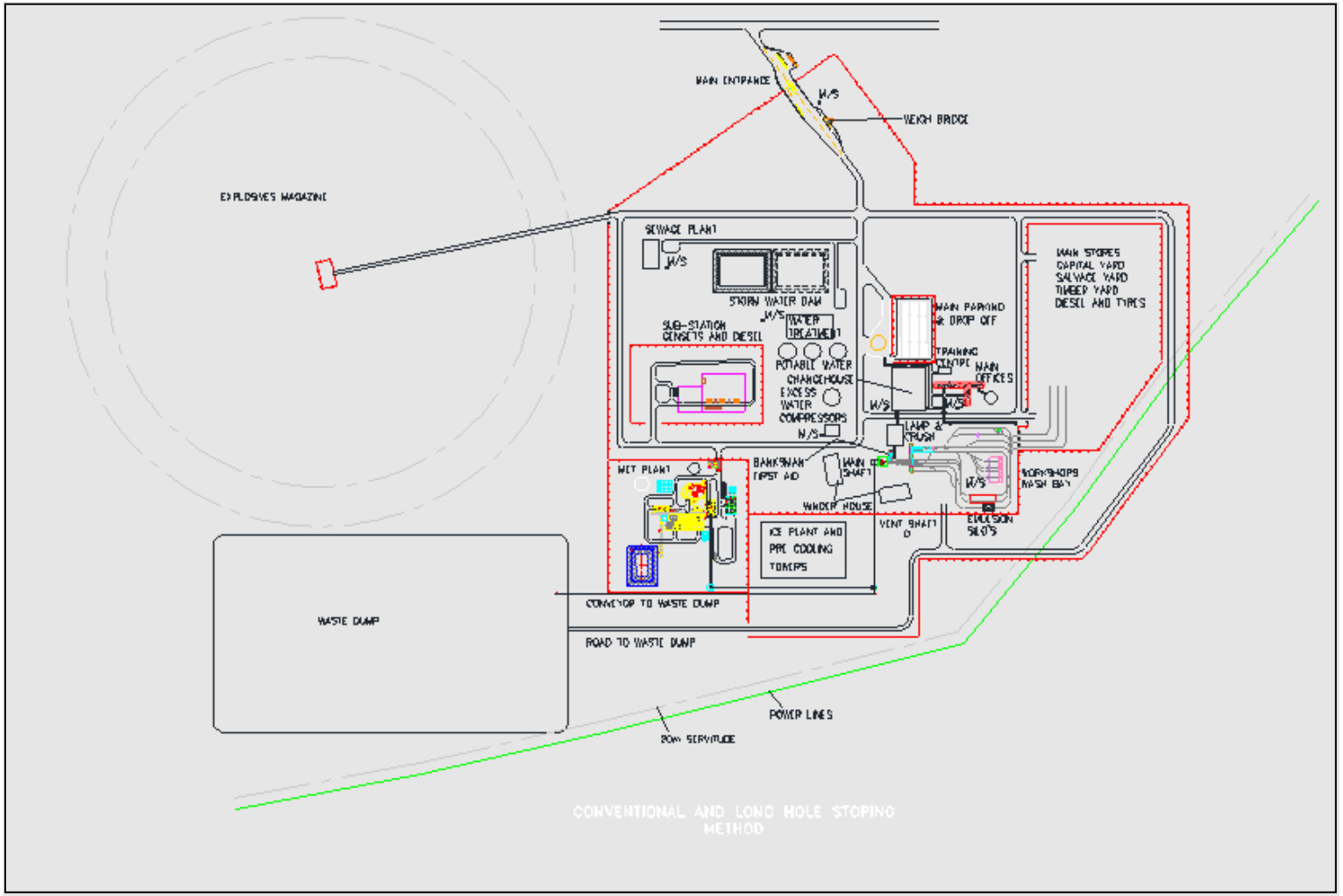
Workshops catering for the following have been proposed:

- Electrical repairs and production;
- Mechanical fitting, machining and production;
- Boiler making;

- Rigging;
- Hydropower repairs workshop;
- Riggers workshop;
- Instrumentation workshop;
- Light vehicles repair workshop; and
- Skip gantry.

The proposed workshops will be of steel construction with corrugated galvanised iron cladding on the sides and similar sheets for roof cover. All workshop structures can be dismantled and re-located at mine closure. The concrete pad upon which the workshop complex sits will be about 435 m^3. The workshops will be located just east of the shaft position. Refer to **Figure 2-2**. Lean-to type structures will be constructed within the workshop complex to provide office accommodation for foremen.

All workshops will be in place by Year 6.



(Figure not to scale. Please refer to Appendix A for the A3 figure.)

Figure 2-2: Proposed Surface Infrastructure Layout for the DBM Gold Mine

2.1.2 Offices

The administration offices will be of pre-fabricated design consisting of steel columns and top rails manufactured from 1.6 mm mild steel plate. All steel components will be corrosion protected.

External walls will be from a 9 mm fibre board panel with a fire retarding skin bonded to a 40 mm polystyrene core covered by a 12.5 mm Rhino board on the inside.

The internal walls between offices will be drywall. Two 12.5 mm Rhino board will be installed using the galvanized track and stud method of partitioning. The roof is of timber trusses and 0.5 mm galvanized corrugated sheeting covering. The ceiling will be of 6.4 mm Rhino board. Office floors and corridors will be of carpet tiles while kitchens and bathrooms will have vinyl tiles.

The total office foot print has a concrete pad of about 1,609 m^2.

All offices to be in place by Year 6 of the project.

2.1.2.1 Change House and Lamp Room

The change house will be located adjacent to the shaft administration offices. It is a planned to be a pre-fabricated structure with galvanized steel columns and Chromadek sheet panels, insulated with 60 mm polystyrene. There will not be a ceiling due to the amount of steam normally generated in such a facility, although there will be whirlybird fans in the roof to exhaust steam. Timber trusses will be enamel painted and sisalation will be laid under the roof sheets. The roof sheets will be of the IBR type galvanized sheets.

The change house will occupy a concrete pad of about 1,475 m^2.

The first of the two modules will be installed in Year 1 and the second one in Year 7.

2.1.2.2 Stores and Salvage Yard

The store building is a steel structure similar to the workshop buildings with a floor space of 483 m^2 and a concrete volume of about 145 m^3.

The fuel storage facility is also within the stores area. It is sized to service all surface mine vehicles and the standby generator sets (gensets) which will be required if Eskom power is unavailable. The vehicles are estimated to consume about 1.4 kl of fuel per day and the

gensets about 2.9 kl when required to run. The underground operations will consume about 16.5 kl per day. The quantity stored is 183 kl, which is about 7 days consumption if all gensets are running at 60 percent diversity.

The proposed tank is a self-bunded unit complete with fuel dispensing pumps, flow meter, inlet and outlet fittings, overfill protection, anti-siphon valve, access manhole, level indicator, air breather and safety valve. There will be 8 for the 80,000 120,000 tpm option) units of 46 kl capacity each. They will be placed on a specially prepared concrete pad.

The cost of the tanks and the civil costs to prepare the depot surface have been included. This infrastructure is to be installed by Year 3 of the project.

2.1.2.3 Core Shed

A Core shed has been provided for and is of the same design as the workshops and stores buildings. It occupies a pad of 450 m^3 concrete volume.

This infrastructure is to be installed by Year 1 of the project.

2.1.2.4 Fire Detection and Suppression

Provision for fire pumps, fire water tanks, fire hydrants and hydrant reticulation, fire extinguishers hose reels and alarms has been made. Fire water is drawn from the potable water system. Water supply pipes will be sized to be able to charge fire water tanks in reasonable time. All facilities and major fixed equipment, such as offices, stores, timber yard, winder houses and fuel depot are protected. Provision has been made for a light diesel vehicle, equipped with water and foam tanks and pumps to fight small veldt fires around the site. Mobile equipment will have fire extinguishers on board.

2.2 Roads, Railway Lines and Power Lines

2.2.1 Roads

Existing Infrastructure

The Wits Gold DBM Mine will obtain access from the S239 Road. Currently, this access can be considered as an informal access and might require a formal approval. The adequacy of this access needs to be investigated further as currently the access is an uncontrolled railway crossing (**Figure 2-3**).

The major routes in the study area are described in **Table 2-1** and **Figure 2-3** below:

Table 2-1: Overview of the existing road network and jurisdiction

ROAD LINK	JURISDICTION	CLASS OF ROAD	FUNCTION OF THE ROAD	ROAD SURFACING	CROSS SECTION (TYPICAL WIDTH OF THE ROAD)
R30	Free State Department of Public Works, Roads and Transport (FDPWRT)	R3	The road is a Provincial Class 3 road with a collector-distributor function. The road runs in the north-south direction. The R30 connects Odendaalsrus with Theunissen.	The road is paved and the surface condition is fairly adequate.	Single carriageway (2 lanes: one lane per direction)
R73	Free State Department of Public Works, Roads and Transport (FDPWRT)	R3	The road is a Provincial Class 3 road with a collector-distributor function. The road runs in the north-south direction. The R73 connects Welkom with the R30.	The road is recently paved and the surface condition is adequate.	Single carriageway (2 lanes: one lane per direction)
S1279	Free State Department of Public Works, Roads and Transport (FDPWRT)	R4	The road is a Provincial Rural Road. The road runs in the north-south direction. The S1279 Road connects with the S239 Road.	The road is a gravel road	Single carriageway (2 lanes: one lane per direction)
S239 (Theunissen Street)	Free State Department of Public Works, Roads and Transport (FDPWRT)	R4	The road is a Provincial Rural Road. The road runs in the east-west direction. The S239 Road becomes Theunissen Street and connects with the R73 Road.	The road is mostly gravel road	Single carriageway (2 lanes: one lane per direction)
Jan Hofmeyer Street	Free State Department of Public Works, Roads and Transport (FDPWRT)	R3	The road is a Provincial Class 3 road with a collector-distributor function. The road runs in the north-south direction. Jan Hofmeyer Street becomes the R73 further south and connects to the N1.	The road is paved and the surface condition is fairly adequate.	Single carriageway (2 lanes: one lane per direction)

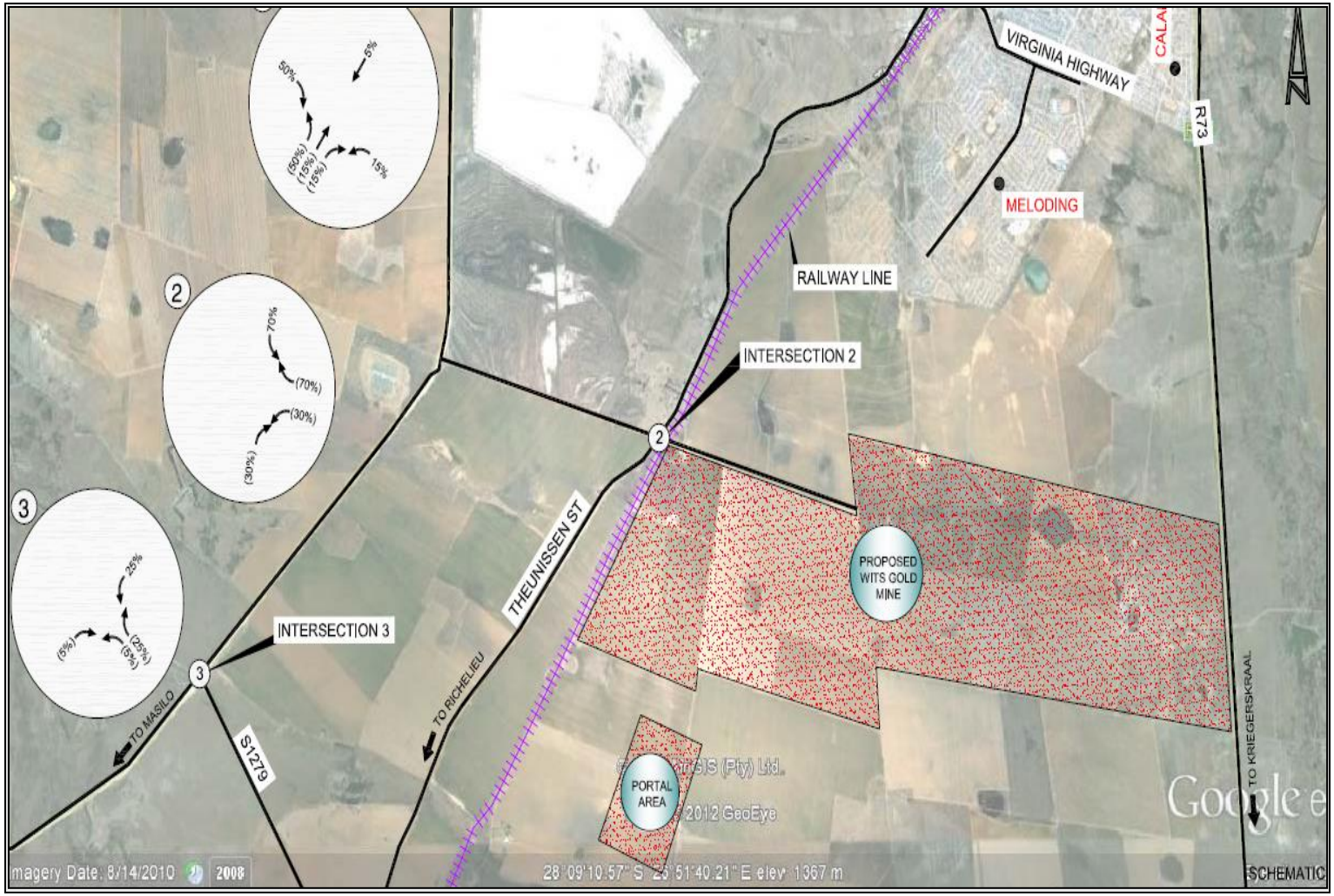


Figure 2-3: Road and Railway routes associated with the study area

Required Infrastructure

Approximately 2 km of access tarred road 10 m wide will be required as the main access to site. The road will consist of 2 x 150 mm layers of roadbed from borrow pit material (G7), a 200 mm thick stabilized sub-base layer (G5) from commercial sources and a 150 mm thick base layer, finishing off with a layer of bitumen, as well as storm water drainage channels.

Internal roads will be of a similar design to the access road, except that they are compacted gravel and are about 9 km long.

These roads are specifically designed for use by surface support vehicles, such as stores delivery trucks and light service trucks.

2.2.2 Power Lines

Required Infrastructure

The mine has requested a bulk supply from Eskom at 11 kV, as the mine reticulation will be performed at this level. The proposal is for Eskom to construct a 132 kV line from their Thesues substation to the mine site, using an existing transmission line servitude. The 35 MVA, 132/11kV substation will be constructed on the mine site.

2.2.3 Conveyors and Railway Lines

Existing Infrastructure

There are no existing conveyors on site.

2.3 Mining Process

2.3.1 Mining Method

2.3.1.1 Conventional Stoping Method:

The mining method selected for application at the DBM Project is a conventional labour intensive breast mining method supported by a trackless footwall infrastructure.

The conventional breast mining method is commonly used on the gold deposits of the Witwatersrand. This method lends itself to selective mining in an ore body which is known to be highly channelised. In addition, this method has the advantage of being able to negotiate faulting thus minimising the risk of high dilution and associated losses.

Use of a trackless footwall infrastructure is less common, though not unique in South African gold mines. The use of a trackless supporting infrastructure has been driven by the selection of the primary access method. Based on the Scoping Study, the short shaft and decline combination was proposed with the primary consideration being time to early ore recovery. The flexibility of trackless equipment in the off reef development assists the negotiation of major and minor faulting and the ability to generate excess pre-developed ore reserves for selective mining.

A number of trade-off studies have been undertaken in the PFS. Eventually the option of a conventional deep shaft with tracked haulages and belt conveyors to replace trackless rock hauling was pursued.

2.3.1.2 Stoping Design

The stoping method applied to the reefs (Figure 2-4) at the DBM Project is a conventional breast mining approach. Mining is complicated by the fact that there are three reef horizons in relatively close proximity to each other, meaning a strict mining sequence must be applied as discussed previously. For purposes of this study, the B Reef horizon which is situated between the Kalkoenkrans/Beatrix and Leader Reef horizons is ignored due to the minimal amount of payable reef and the sporadic nature of this ore body.

The mining method consists of a reef access centre gully developed in a true dip direction in the plane of the reef between mining levels, a dip distance of approximately 225 m. The reef is carried in the hanging wall of the centre gully with footwall waste mined to give additional height. Centre gully dimensions are typically 2.4 m high by 1.5 m wide.

Mining panels of approximately 30 m in length including pillars (in the dip direction) are then established from this centre gully and mined in a strike direction. The height of these panels is planned to be kept at 1.0 m plus an allowance of 0.2 m for dilution. There will be 7 panels each side of the centre gully between mining levels.

On the down dip edge of each mining panel a secondary gully or strike gully is carried slightly in advance of the face. This Advanced Strike Gully (ASG) will be 2.2 m deep and 1.5 m wide excluding additional unplanned dilution.

A centre gully is developed every 180 m on strike meaning that mining advances a maximum of 90 m from the centre gully in either direction.

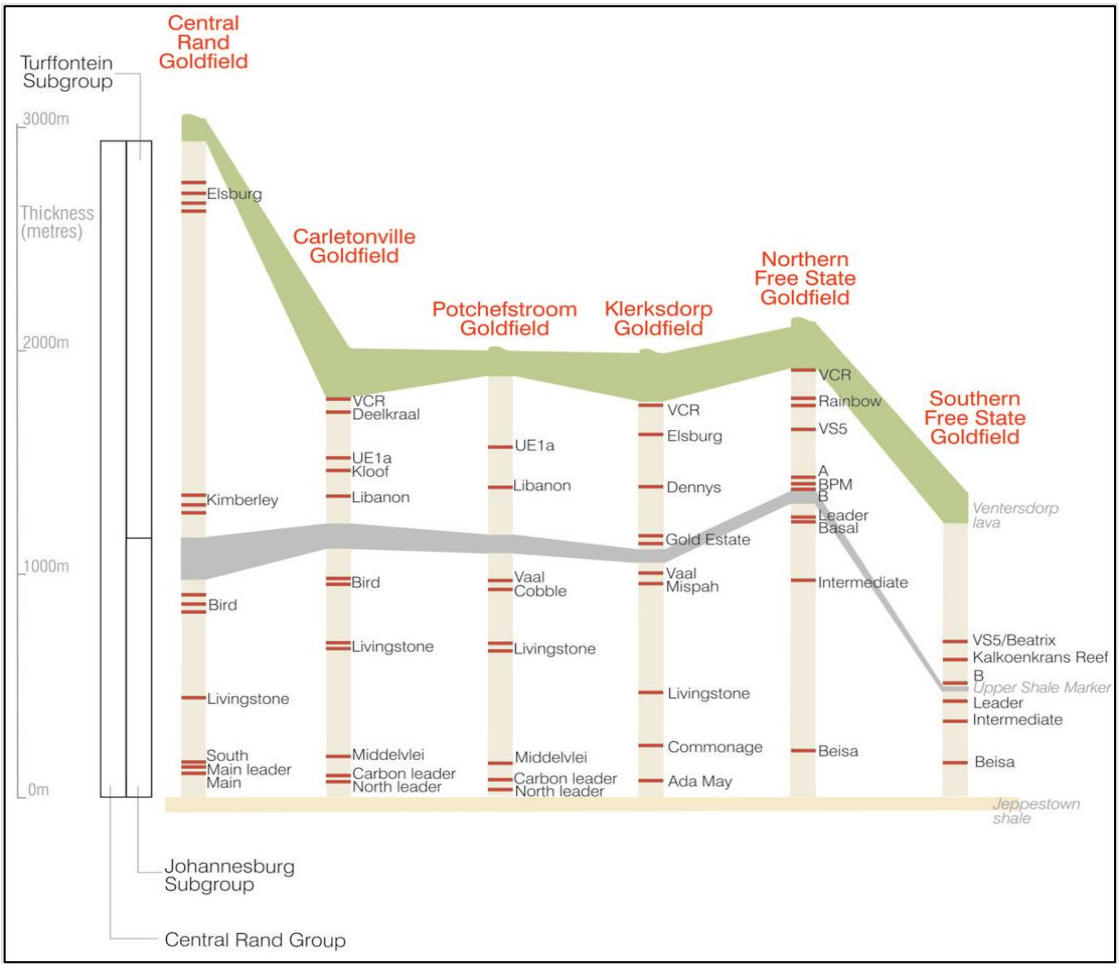


Figure 2-4: Principal Conglomerate Reefs In The Central Rand Group, Western Witwatersrand Basin (Adapted By Muntingh D.J., 2007)

2.3.2 Development

2.3.2.1 Footwall Development

The Footwall Drive (FWD) will be developed in the strike direction of the ore body at a distance of approximately 30 m below the lowest reef horizon. The development will be 4.8 m by 4.5 m in cross-section.

At intervals of 180 m, crosscuts will be developed off the FWD toward the reef horizon to access the raise position of each of the two ore bodies. The intersection point of each of the three reefs will be used as a platform for development of the centre gullies.

Mechanised trackless mining methods will be used to develop all footwall development, equipment deployed will include:

- Electro-hydraulic drill rigs for face drilling and drilling of support holes;
- LHD's for cleaning of the blast;
- 30 tonne haul trucks for hauling broken rock to the waste tips; and
- Various auxiliary vehicles for support and construction activities.

Figure 2-5 overleaf shows a cross-section of a typical development end.

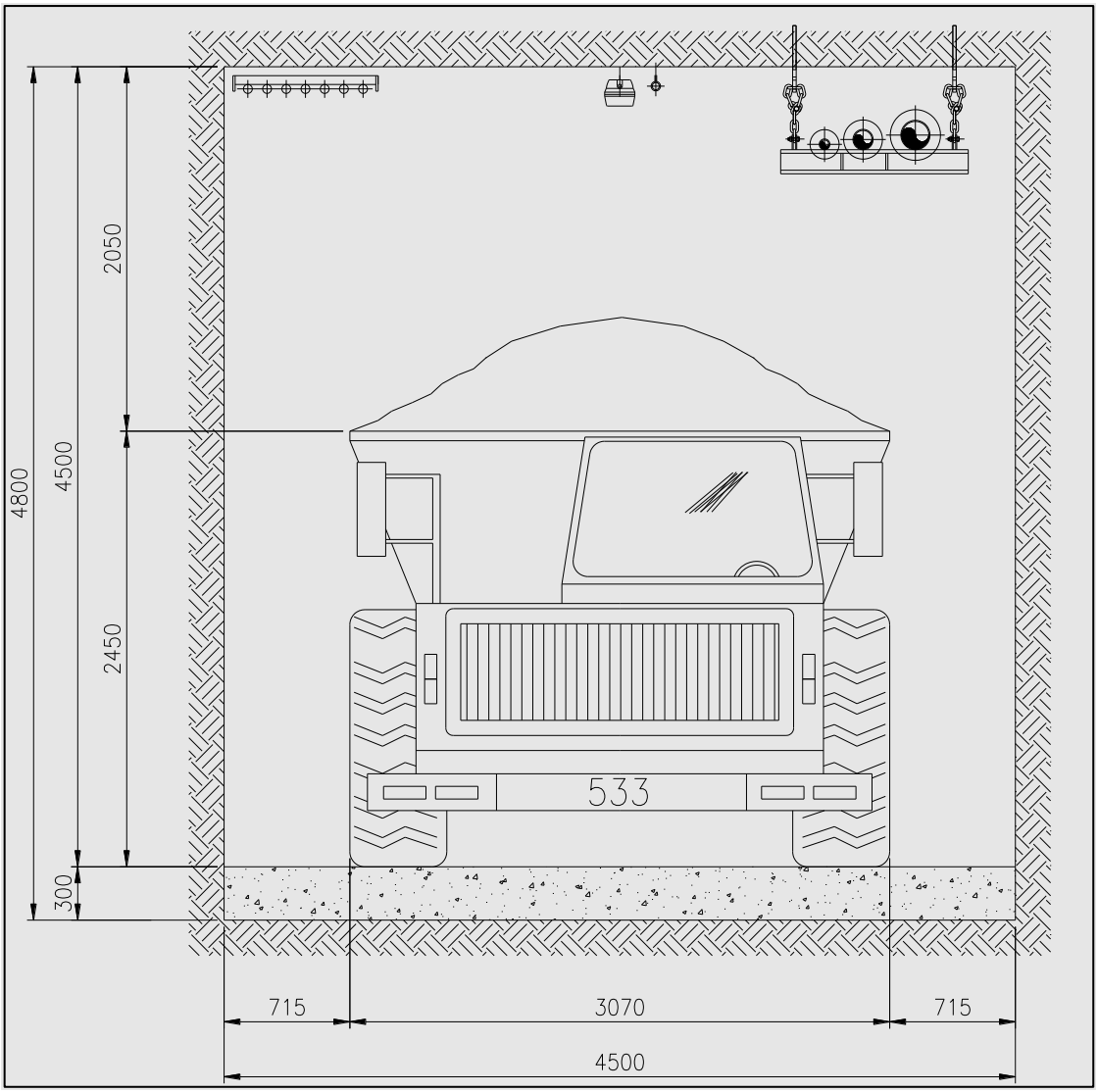


Figure 2-5: Cross section through footwall development

2.3.2.2 Stope Access

Access to the stopes will be from the crosscuts intersecting each reef horizon. A short cubby will be developed at the reef intersection from which the centre gully development will be launched. This will be developed using the same equipment as for the footwall development.

2.3.2.3 Stope Ore Passes

Two ore passes per stope will be developed from the cross cuts equipped for centre loading for ease of truck loading.

Each ore pass will go through both reefs to enable delivery of ore from mining on all reef horizons to the crosscut. Only one reef horizon at any one time will use a particular ore pass for reasons of safety.

Stope ore passes will be developed using drop raising methods or other mechanised mining equipment (**Figure 2-6**).

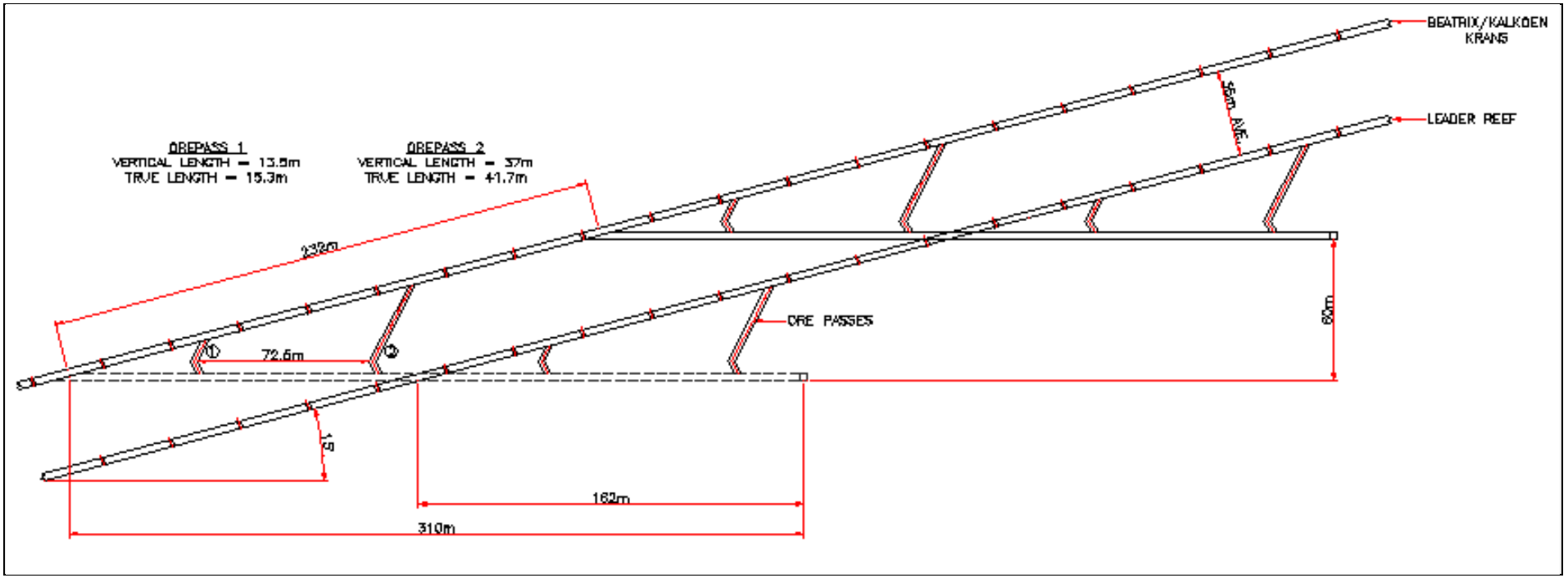


Figure 2-6: Section through stope showing stope ore passes connecting to crosscut development

2.3.3 Trackless Declines

Two main trackless declines will be developed from the subcrop elevation to access the North and South mining blocks. The North decline will start from the vertical shaft area. The South decline will be developed from a position approximately 1.8 km from the vertical shaft. Both these inclines will be equipped with 50 ton dump trucks from hauling of ore and waste rock.

Figure 2-7 shows a cross section of a trackless decline.

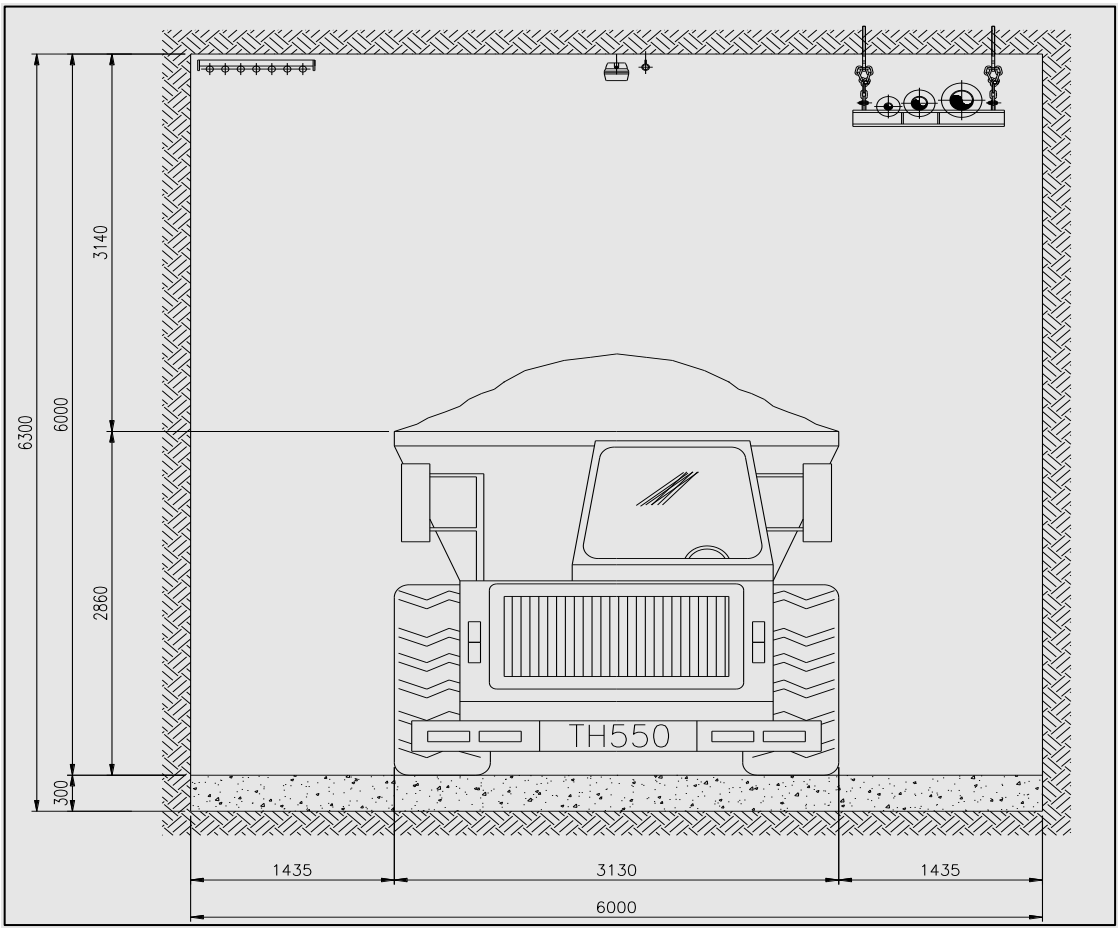


Figure 2-7: Cross-section of trackless decline

2.3.4 Development Productivities

The following development productivities have been applied to the development operation.

- All decline ramps and footwall development accessing the ore body has been planned at 90 m linear metres advance per month. Additional cost was allowed for this development to cater for use of contractors to ensure advances are achieved at the early stages of the mine's development.

- All on reef conventional development will be at a rate of 30 m per month. All ore passes have been planned at the same rate of 30 m per month.

2.3.5 Mine Scheduling

The design life of the mine in accordance with the mining schedule is 19 years. Accordingly, all engineering designs are based on a minimum of a 19 year life span requirement. First production is expected 47 months after shaft sinking.

2.4 Processing Method

2.4.1 Rock handling

2.4.1.1 Ore Handling

Stope cleaning will be done with conventional winches and scraper. Hydro powered water jets will be utilised in the cleaning of stope panels. Conventional gully and centre gully scraping will be done to stope ore passes.

Reef will be collected in the cross-cuts utilising 30 ton dump trucks and hauled to the main decline ore passes. Ore will be hauled to the main shaft in the main declines utilising 50 ton dump trucks.

2.4.2 Mineral Processing

The tonnage throughput rate for the DBM plant has been set at 120,000 tons per month, based on the mine design.

2.4.2.1 Metallurgical Testwork

Based on the mining plan from the Concept Study, over the life of mine, ore will be mined in varying proportions from four reefs – the Kalkoenkrans reef, Beatrix reef, B reef and the Leader reef. The Leader reef has high and low carbon areas. The Kalkoenkrans reef made up more than 50% of the ore to be mined.

No metallurgical testwork was carried out prior to the commencement of the pre-feasibility study.

Samples of leach tailings will be available for tailings dam design testwork and for various groundwater studies.

2.4.2.2 Selection of Process Route

For the purposes of process and plant design for the pre-feasibility study, it was assumed that the ore to be processed will be similar in mineralogy and ore processing characteristics to the ores which are currently being mined in the area. The closest metallurgical plants to the DBM area are the old Harmony Merriespruit plant, the Joel plant and the Beatrix plant. As the Harmony plant was designed many years ago, its processing route was not considered. Joel plant uses run-of-mine (ROM) milling followed by cyanide leaching and carbon-in-pulp (CIP). Beatrix also uses ROM milling followed by carbon-in-leach (CIL). The Beatrix ore contains smectite type clays, which are preg-robbing, so CIL is well suited to this ore. Neither Joel nor Beatrix make use of gravity concentration.

Based on the above it was decided that the process route would be ROM milling, followed by CIL, with the gold being recovered by elution, carbon reactivation, electrowinning and smelting. Should the testwork show that gravity concentration could make a significant contribution to gold recovery, it could then be included in the flowsheet. Similarly, if the ores do not contain any preg-robbing minerals, then CIP could be considered. A consideration is that a number of gold plants around the world which have not identified preg-robbing minerals in their ores, still elect to use the CIL process over CIP as it is lower capital cost and has a simpler flowsheet (no CIP tanks). CIL does result in a lower gold loading on the activated carbon than CIP plants, which then requires a larger elution plant. Overall, a CIL plant is lower capital cost than a CIP plant and installing a CIL plant ensures that no gold will be lost to preg-robbing minerals.

This process route utilises technology and equipment that is well proven on the metallurgical plants on the gold mines of the Witwatersrand and Free State.

2.4.2.3 Evaluation of Viability of Uranium Recovery

A study was carried out to determine whether it would be viable to recover uranium from any or all of the DBM reefs.

During the DBM Concept Study the various reefs were analysed for uranium (as U_3O_8). The High Carbon Leader reef showed the highest uranium grade, at 280 ppm. The highest uranium content of the other reefs was 140ppm. Based on the planned mining rates from the various reefs a uranium plant feed rate of 15 000 tons per month of High Carbon Leader Reef was assumed. The capital and operating costs for a plant of this capacity were determined, and the revenue calculated, all in current money terms.

The study showed that treating ore from the High Carbon leader Reef, the highest grade reef in terms of uranium content, will require a uranium price of $85 per pound of uranium (in current money terms) to make the process viable. This compares to the current uranium price of $55 per pound. It is therefore unlikely that uranium recovery will be viable in the near future from any of the DBM reefs..

2.4.2.4 Process Description

The proposed plant flowsheet is shown in Figure 2-8 below.

ROM ore is withdrawn from the shaft headgear bin with vibrating feeders onto the conveyor that transfers the ore to the mill silos. No crushers are included in the circuit as the ore from underground will have a top size of 400mm, which is an ideal feed size for ROM milling. It is possible that the ore produced by the Long Hole Stoping mining method may be finer than this, but 400mm is the preferred top size. In ROM milling, the large rock particles are used for grinding in the mill. An absence of these sized particles will result in increased steel ball consumption.

Ore is withdrawn from the mill silos with vibrating feeders and fed to the ROM mills. The mill discharge is pumped to the cyclones where classification by particle size takes place. The cyclone underflow containing the coarse particles is returned to the mill for regrinding while the cyclone overflow containing the fine particles passes to the thickener. A linear screen on the thickener feed removes woodchips and any tramp material such as plastic particles. These particles, if not removed, will blind the carbon screens in the CIL circuit.

If gravity concentration is included in the flowsheet, a portion of the cyclone underflow will be fed into the gravity concentrator. The tailings from the gravity concentrator will be returned to the mill, while the gravity concentrate will pass to the smelthouse for further upgrading and smelting.

Lime and flocculant are added to the thickener feed to aid settling of the finer particles. The lime addition is controlled to provide the optimum pH in the CIL for gold leaching. Thickener underflow is pumped to the CIL circuit. Thickener overflow water is returned to the mill process water tank. The plant feed sample for gold accounting purposes will be taken from the feed to the CIL tanks using an automatic cross cut sampler.

Sodium cyanide is added to the CIL tanks to dissolve the gold. Granular activated carbon made from coconut shells is added into the last CIL tank to absorb the dissolved gold. The carbon is pumped up the CIL circuit counter current to the pulp flow using recessed impeller

pumps that minimise abrasion of the carbon. Carbon from the first (head) CIL tank is pumped to the loaded carbon screen. The screen underflow (pulp) flows back into the CIL tank and the loaded carbon is washed on the loaded carbon screen.

The loaded carbon then passes to the loaded carbon tank, from where it is fed into the elution column. The loaded carbon tank is also used as an elutriator, to wash any remaining woodchip and plastic particles out of the loaded carbon. There are two elution processes commonly used in the gold industry, the Zadra process and the Anglo American Research Laboratories (AARL) process. In the Zadra process, eluting solution (eluate) containing sodium cyanide and sodium hydroxide (caustic soda) at 120°C is passed through the elution column to strip the gold off of the carbon. The solution then passes to the electrowinning cells where the gold is electrolytically plated from the solution. From the electrowinning cells the solution returns to the elution column to strip more gold off of the carbon. This circulation of eluate through the elution column, to the electrowinning cell and back to the elution column typically takes approximately 16 hours, until the gold has been virtually completely eluted off of the carbon.

In the AARL process, the eluate does not pass directly to the electrowinning cell but is stored in the eluate tank. Fresh eluate is passed through the elution column until the elution process is complete. The eluate is then passed through the electrowinning cell to electroplate the gold.

The Zadra process is considered to be simpler to operate than the AARL process, so the Zadra process has been selected for the DBM plant.

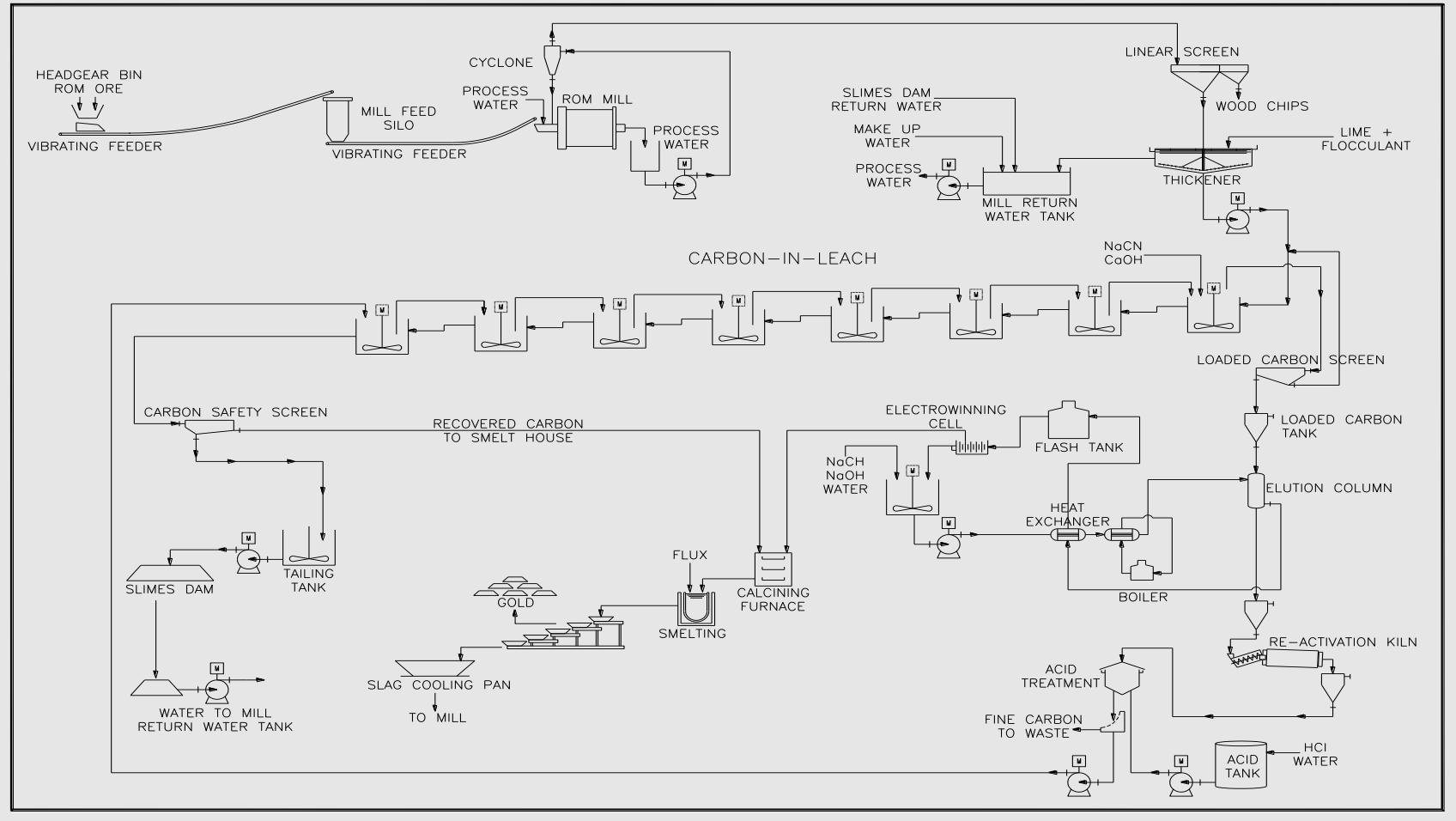
In the electrowinning cells, the gold is plated onto steel wool cathodes. Once electroplating is complete, the cathodes are removed from the cells, washed and calcined in a furnace. The product from calcining is then mixed with fluxes and smelted, to produce gold bullion bars containing approximately 90% gold. The slag resulting from smelting is crushed, milled and tabled on a gravity table to recover any gold prills from the slag. The gold concentrate is added to the smelt, while the slag is returned to the plant ROM mill.

Once the elution process is complete, the eluted carbon is washed and transferred to the regeneration kiln feed tank. The carbon is fed into the regeneration kiln. At a temperature of 750°C any volatile organic matter is distilled from the carbon. This process reactivates the carbon. The carbon exits the kiln into a quench tank. From the quench tank the carbon is screened to remove fines, and is then acid treated with dilute hydrochloric acid to dissolve any calcium and base metals which have adsorbed onto the carbon during the gold adsorption

process. The acid washed regenerated carbon is then washed to remove residual traces of acid and returned to the last CIL tank for the adsorption process to be repeated. A quantity of fresh activated carbon needs to be added to the plant on a regular basis to make up for carbon losses caused by abrasion of the carbon in the CIL agitators and pumps. Fresh carbon, receive in bulk bags, is poured into an agitated tank to which water has been added. The carbon is agitated in the tank to remove the rough edges on the carbon particles. If this is not carried out, these rough edges will be abraded off shortly after the carbon has been added to the CIL tanks and will leave the CIL tanks in the tailings, but having adsorbed some gold, resulting in gold losses.

The pulp passes from tank to tank down the CIL train of tanks, counter currently to the carbon. When the pulp exits the last CIL tank, it passes to the carbon safety screen. Here the pulp passes through the screen to the cyanide detoxification tanks, and any carbon particles that have passed through the last interstage screen due to a hole in the screen will be recovered on the safety screen. This recovered carbon will either be smelted or sent to a by-product smelter to recover contained gold.

The CIL tailings then passes to the tailings tank prior to be pumped to the tailings dam. On the tailings dam, water is recovered through a penstock system and flows to the return water dam, from where it is pumped back to the plant for re-use.



(Figure not to scale. Please refer to Appendix A for the A3 figure.)

Figure 2-8: Proposed plant flowsheet

2.5 Plant Equipment Selection

2.5.1 Mill Feed Silos

The mill feed silos were selected on the basis of providing 24 hours of live ore capacity each. This may need to be changed if the mining operation dictates otherwise.

2.5.2 Thickener

The plants designed in the 1990's and before made use of conventional large diameter low settling rate thickeners. Since then, high rate thickeners have become the norm on most metallurgical plants. High rate thickeners make use of water dilution and a flocculant addition to assist settling of the solids in the pulp. A linear screen will be used on the thickener feed to remove woodchips, pieces of plastic and other tramp material.

2.5.3 Elution, Regeneration, Acid Washing, Electrowinning and Smelting

There are a number of companies that supply standardised elution, regeneration and acid washing plants, based on a set of design parameters provided by the client. The main design inputs for such a plant is the process route required, the tonnage of loaded carbon to be eluted daily and the gold content. The electrowinning and smelting is also designed on a similar basis.

2.5.4 Cyanide Destruction in Tailings

There is some uncertainty over the requirements of the South African Environmental Authorities regarding the disposal of gold plant tailings containing cyanide. This project will be depositing the gold plant tailings on the existing permitted Merriespruit tailings dam. It is therefore unlikely that there will be a requirement to destroy the cyanide in the tailings prior to deposition on the tailings dam. On this basis the tankage and agitators required for cyanide destruction have been excluded from the plant design.

2.5.5 Analytical Laboratory

The laboratory will provide an analytical service for samples from the plant, underground, geology and the environmental department.
The current trend in the industry is to contract out the chemical analysis function to an outside laboratory. Discussions with SGS Laboratories indicated that they offer two options.

In both cases the mine provides a laboratory building. SGS will either provide all of the equipment in the laboratory and charge a monthly fee which covers amortisation of the equipment (over a period of 3 or 5 years) and the monthly operating cost, or the mine will purchase the equipment (from a schedule provided by SGS) on capital expenditure and pay a monthly operating cost. There would be an option where the mine could take over operation of the laboratory after 3 or 5 years. In this study, it has been assumed that the mine would purchase the equipment and pay a monthly fee to cover the operating costs of the laboratory.

2.6 Transportation

2.6.1 Mine Logistics

2.6.1.1 Employees

Employees will be transported from surface to underground via a vertical shaft which accesses the reef sub-crop position approximately 500 m below surface.

During early mining when working places are relatively close to the shaft, personnel will either travel on foot or be transported via man transporters to their designated working place.

As the workings become more remote from the vertical shaft inter-level raises will be developed and chairlifts will be installed for the transport of men.

2.6.1.2 Material

Materials will be loaded into materials cassettes or pallets for transport underground. This will be done at the surface stores yard where there will also be a marshalling area. These cassettes and pallets will then be loaded into the shaft conveyance for transport underground. At the shaft bottom the cassettes and pallets will be collected by trackless flatbed units for transport directly to the appropriate working place.

Empty cassettes and pallets will be taken out in a similar manner and delivered back to the stores yard on surface.

2.7 Solid Waste (Domestic, Industrial and Hazardous)

2.7.1 Waste Handling

Domestic and hazardous industrial waste is to be disposed of off-site.

Domestic waste will be disposed of by an appointed contractor who shall be responsible for the collection and legal disposal of all domestic waste at an approved site.

Hazardous waste will be disposed of off-site. A suitable contractor will be appointed to regularly load the hazardous waste from a dedicated site on-mine, and transport it to a legally compliant disposal facility. The waste will need to be stored in sealed drums temporarily, before being transported away for disposal. This will require a temporary storage facility on-site. The on-site facility is bunded so that any spillage that occurs is contained within the bunded area. A wash facility is also provided for to wash the materials salvaged from underground of any contaminated dust before they can be handled further.

A bioremediation site has also been allowed for in order to rehabilitate soil contaminated by hydrocarbons through mining activities.

The infrastructure is required in the first year of the project.

2.7.2 Tailings Storage Facility (TSF)

Thickened slurry will be discharged through day and night delivery stations in order to form beaches that slope downwards away from the day walls. This will create top surface geometries that will result in supernatant pools that are maintained in the immediate vicinity of the penstock intake towers. An average beach angle of approximately 0.5% is expected for the segregated tailings material. The supernatant will be decanted from the top surfaces of the compartments because retained water could:

- Reduce the freeboard and the storm water storage capacity, and so increase the potential for overtopping.
- Increase the potential for slurry flows in the event of a breach.
- Increase the hydraulic gradient of seepage and pore water pressures, which could lead to lower factors of safety for side slope stability.
- Inhibit consolidation and so reduce the strength and storage capacity of the facility.
- Increase water losses through evaporation and seepage and so increase the environmental impacts on water consumption and groundwater.

In view of the above, it is strongly recommended that decant return should be maximized at all times in order to ensure minimum storage of supernatant. Excess water will therefore only be temporarily stored during high rainfall periods.

The consolidation of the tailings is important in enhancing stability and reducing the probability of a flow failure should structural instability occur. It also ensures the best utilisation of the volume capacity by increasing the stored tons of tailings per cubic metre. The expected low permeability of the non-segregated tailings material implies that there will be virtually no drainage of entrained water by normal consolidation processes during the life of the facility. The effective operation of the facility therefore depends on the consolidation of the tailings by drying, which is a very efficient method. The drying consolidation of the tailings can be inhibited by several factors:

- A large decant pool, preventing drying in the supernatant pool area.
- Concentrated deposition in one area.
- Low slurry densities.
- High rainfall periods.
- High rates of rise.

It is considered that these problems can be overcome by good operation management practice (i.e. thin layer deposition through the implementation of optimised tipping cycles etc.).

2.8 Water Management and Supply

The surface infrastructure for the mine, including the water systems, was planned by Turgis Mining Consultants (Turgis Mining Consultants, 2012). The Turgis information was used extensively in the Conceptual Storm Water Management Plan as well as the water and salt balance conducted by GCS (Pty) Ltd.

2.8.1 Clean and Dirty Water and Storm Water Processes

Storm water control measures will be constructed and implemented within the proposed project area. All the storm water control measures will adhere to the following minimum standards:

- All clean water systems will be designed and operated in such a manner that they are at all times capable of handling the 1:50 year flood event on top of their mean operation level without spilling;
- Any water arising from an area, which causes, has caused or is likely to cause pollution of a water resource, including polluted storm water, must be contained within a dirty water system. In order to reduce the volume of polluted water,

contaminated areas should be minimised. While clean water should be diverted to natural water courses, polluted water should be re-used wherever possible, thereby reducing the use of clean water; and

- All dams and/or discard facilities that form part of the dirty water system will be designed, constructed, maintained and operated to have a minimum freeboard of 0.8 m above full supply level.

2.8.2 Design of the Pollution Control Dam

Any dam which contains dirty water runoff should be appropriately lined to ensure that contaminants do not seep into the ground and pollute surface or groundwater resources. As mentioned previously, in this case the Mine has opted to treat contaminated runoff and to then discharge the treated water into the environment. This has significantly decreased the storage capacity required for a Pollution Control Dam.

2.8.2.1 PCD Simulation

According to the Turgis Report (Turgis Mining Consultants, 2012), the proposed PCD was designed for a peak 1:50 year 24 hour storm event. GCS simulated a water balance around the storage volume as proposed by Turgis (68 Ml) to ensure that storm peaks, combined with the operational philosophy as proposed by Turgis, will not result in any spills from this facility more than once, on average, in 50 years.

In this water balance simulation, two scenarios were assumed. The first scenario assumed that the stormwater dams (Pollution Control Dam (PCD)) volume is fixed at 68 000 m^3 and calculates the treatment capacity required to ensure that the PCD does not spill more than once, on average, in 50 years while also taking into account operational treatment requirements.

The second scenario assumes that the PCD volume could be adjusted in order to ensure that the treatment requirements can be limited as far as possible. The second scenario will therefore attempt to ensure that larger runoff events could be more effectively balanced; ensuring reduced operational costs from a smaller treatment works.
The following assumptions apply to both scenarios:

- Dirty water catchment of 120 ha;
- Runoff as calculating using WR2005 rainfall data and runoff simulation;
- An additional 139,000m3/month treatment capacity from excess water from mining processes, over and above the treatment capacity required for stormwater handling;

- Monthly evaporation figures as given in the hydrology section were used to calculate average monthly evaporation from the PCD surface area;
- An average depth of 2 m was assumed for the PCD;
- Rainfall directly onto the PCD surface area was taken into account; and
- Dust suppression of 12,000m3/month from the PCD was assumed.

2.8.3 Storm Water Drainage

Figure 2-9 shows the conceptual locations for the clean water diversion channels, the clean water diversion berms and the dirty water channels. The proposed infrastructure must be designed by a registered Engineer.

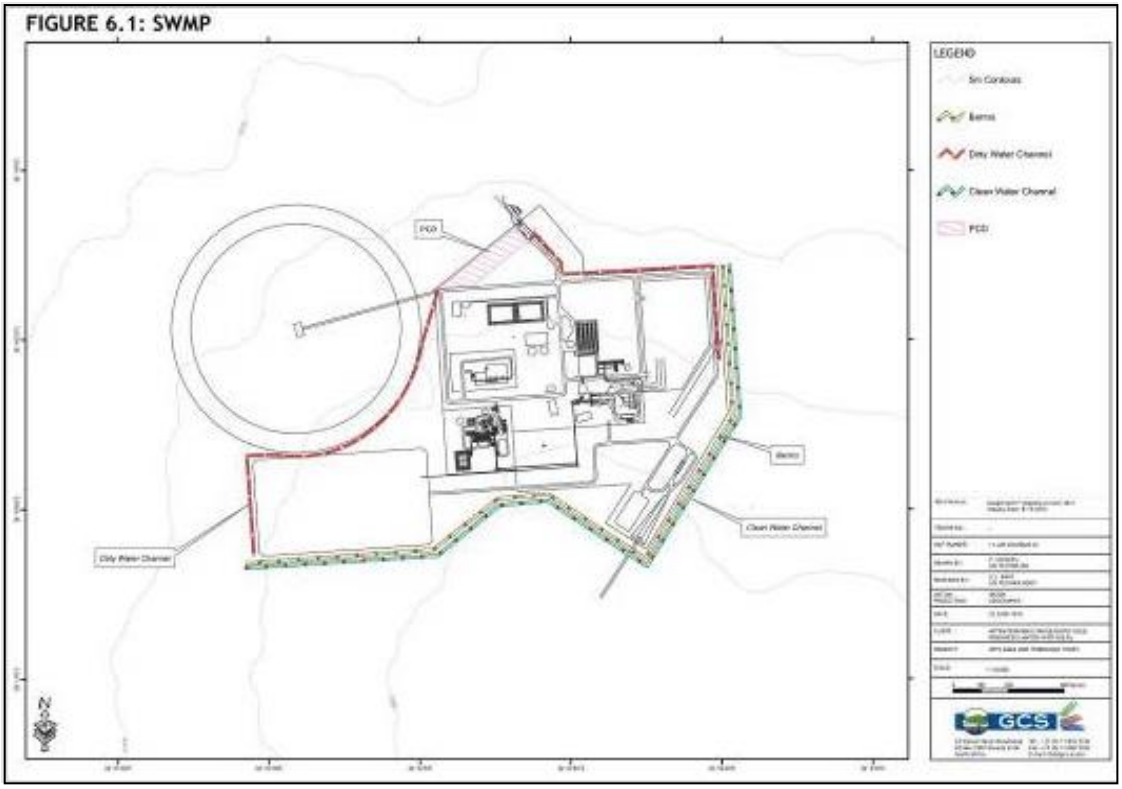


Figure 2-9: Storm water management system

Storm water run-off from other areas apart from the ones described in the above section constitutes clean storm water. Clean water run-off will be diverted around the dirty water areas by means of berms and diversion drains. The water will end up in natural water courses around the area. An allowance has been made for the berms and drains.
The infrastructure is required in the first year of the project.

2.8.4 Sewage Treatment Plant

The sewage treatment plant proposed is a self contained vendor supplied system designed to handle raw sewage generated by about 3,300 people, at a maximum flow rate of about 600 kl per day at the steady state operation of the mine. The plant will be installed in three modules of 200 kl per day each to allow phasing in as the mine ramps up to full production. Effluent will be treated to DWA standards for use as irrigation water for the gardens around the site. Treated humus will be drawn out of the humus tank (once per year) and be transported to the nearest municipality sewage treatment works for disposal, by arrangement.

Sewerage pipes will be PVC and will be buried about 1 m below ground to protect them from inadvertent damage and ultraviolet light. PVC pipes are more cost effective than steel pipes. As the site is fairly flat raw sewage from areas where it cannot flow by gravity will be pumped to the treatment plant. Provision has been made in the costs for transfer pump stations.

The first of the three modules will be installed in Year 1 and the second one in Year 5 and the final one in Year 7.

2.8.5 Potable and Process Water Supply

2.8.5.1 Potable Supply

The potable water usage was estimated at 202 Ml per month, made up of 65 Ml for domestic use and 137 Ml for the Ice Plant. A cost provision based on a quotation received from the municipality was made for the connection.

Water will be stored in three 2.4 Ml tanks (about a day's consumption), located north of the shaft. The tanks are of galvanised steel construction, mounted on concrete pads. These can be translocated at mine closure.

One tank is required in Year 1, the next in Year 6 and the third in Year 7.

2.8.5.2 Process Water Supply

Clarified water excess to the requirements of the underground workings will be pumped to an excess water transfer tank on surface, and distributed to the plant. Water not required for the plant will be treated to potable water quality for use on the mine. Any excess water after treatment will be discharged into natural water courses.

The residue (Brine) will be stored in 6 x dams, specially constructed and triple lined to prevent seepage of contaminated water into the ground water table.

Two dams are required in Year 1, the next two in Year 8 and the third pair in Year 15.

The schematic in **Figure 2-10** shows the proposed water reticulation.

2.8.6 Tailings Storage Facility (TSF)

2.8.6.1 Decant System

The penstocks are sized to remove the runoff generated by a 50-year, 24-hour design storm in less than 3 days. This is to minimise the time that a large pool is stored on the tailings storage facility basins. The storm water volume generated during a 50-year, 24-hour storm event is approximately 111 000 m^3, which can be split as follows:

- Compartment 5A: 45 000 m3;
- Compartment 5B-1: 33 000 m3; and
- Compartment 5B-2: 33 000 m3.

Compartment 5A requires a penstock capable of decanting 15 050 m^3/day, or 627 m^3/h, assuming a 24-hour decanting day. Two 510 mm diameter penstock intakes and a 500 mm ID outlet pipe will have sufficient capacity to decant this volume. This will ensure that the pool volume rarely exceeds 50 000 m^3 provided that the penstock is operated to the design intent. By inference, the same penstock arrangement will suffice for the two 5B compartments.

2.8.6.2 Water Storage System

The return water dam receives decant water from the tailings storage facility. Clean storm water diversion trenches are assumed to divert clean storm runoff around the return water dam.

The water balance is a deficit water balance. As a result negligible storage occurs in the return water dam, as most inflows are consumed during the month. However, it should be noted that while negligible storage occurs on a monthly time step, significant storage could occur within the month. The return water dam must comply with Government Notice 704 of the South African National Water Act, Act 36 of 1998. The dam sizing methodology was based on the principle that the dam needs to accommodate the greater of:

- Runoff generated from a 50-year, 24 hour rainfall event, or
- The excess water resulting from a long-term monthly water balance.

In view of the above, it is concluded that the return water dam should be sized for the 1 in 50 year, 24 hour storm event with an associated capacity of at least 111 000 m^3.

2.8.6.3 Water Return System

The water return system should be sized to return 100% of the slurry water requirement. This is 120 000 m^3/month or 3 943 m^3/day. Assuming a 22-hour pumping day, this equates to 179 m^3/hour.

2.9 Water Balance

Information for the Water and Salt balances was mainly sourced from the Turgis report and diagrams (Turgis Mining Consultants, 2012) as well as further spreadsheets with preliminary water balances as also supplied by Turgis. **Figure 2-9** below shows the process flow diagram as supplied by Turgis in their report.

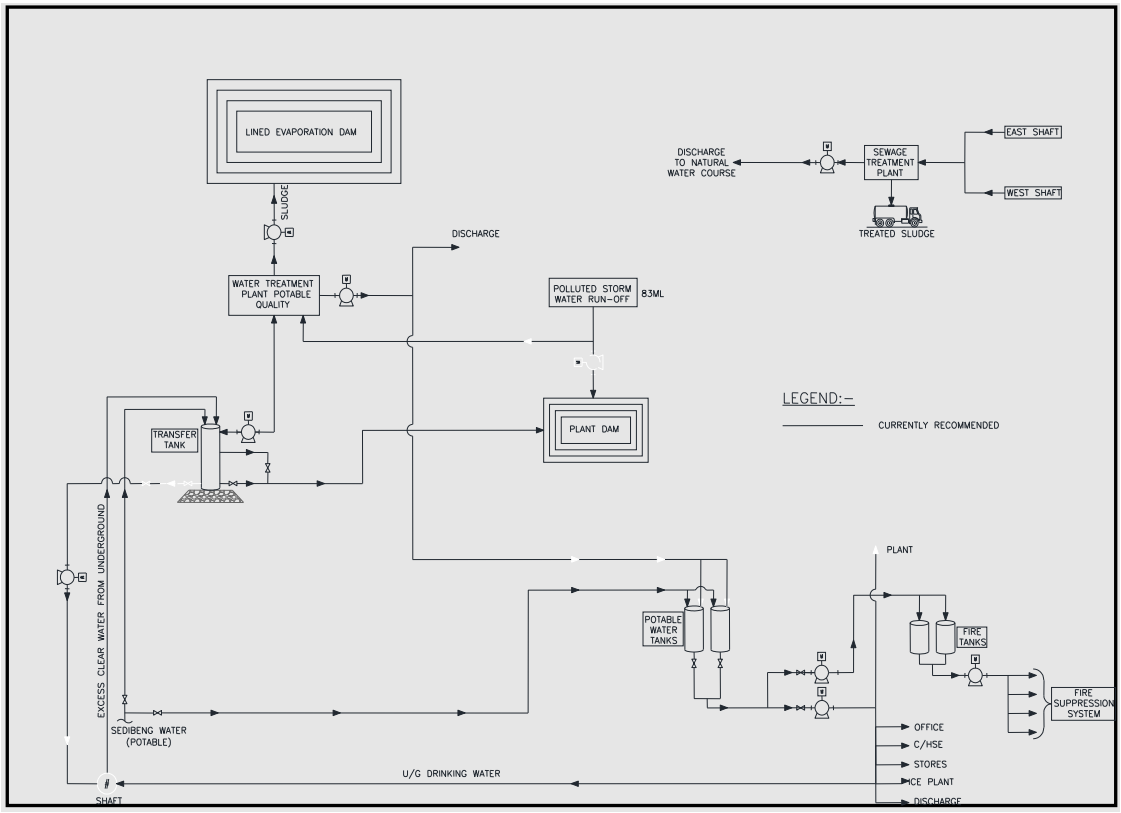


Figure 2-10: Water reticulation diagram

Refer to **Figure 2-11** and **Figure 2-12** for the proposed wet and dry water balances for the SOFS (Phase 1 DBM project) Mining Operation.

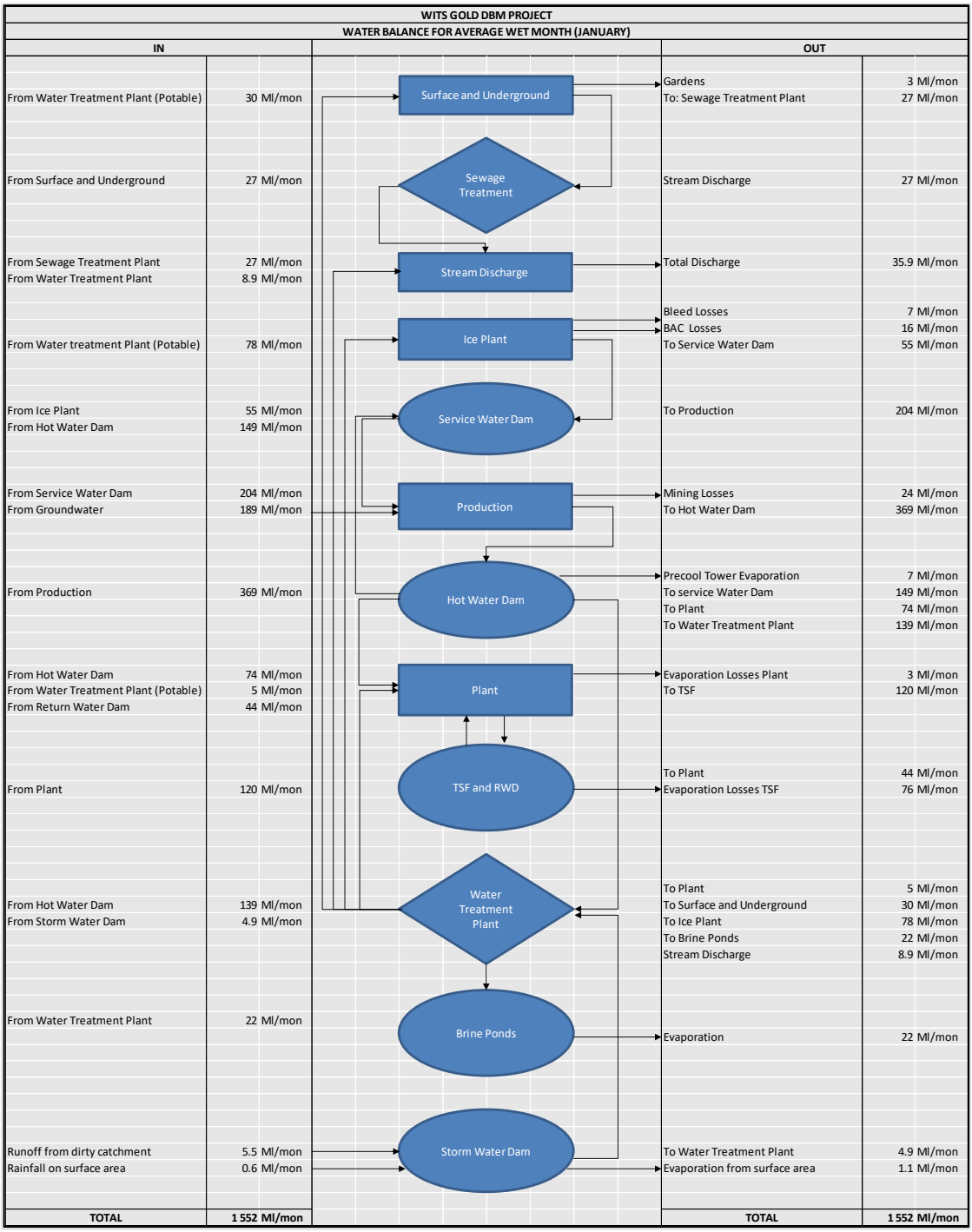


Figure 2-11: Proposed wet water balance

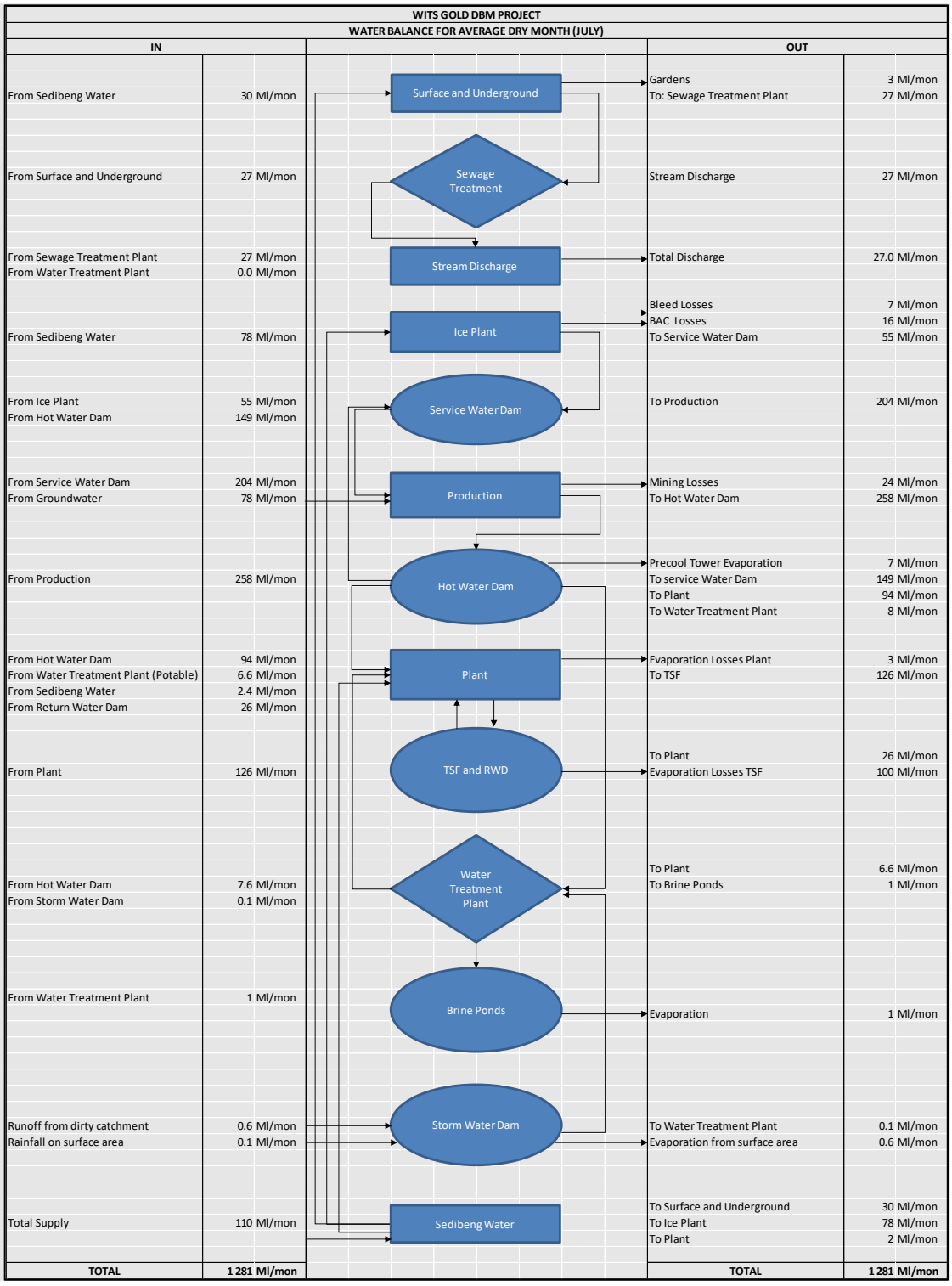


Figure 2-12: Proposed dry water balance

Refer to **Figure 2-13** and **Figure 2-14** for the proposed wet and dry salt balances for the SOFS (Phase 1 DBM project) Mining Operation.

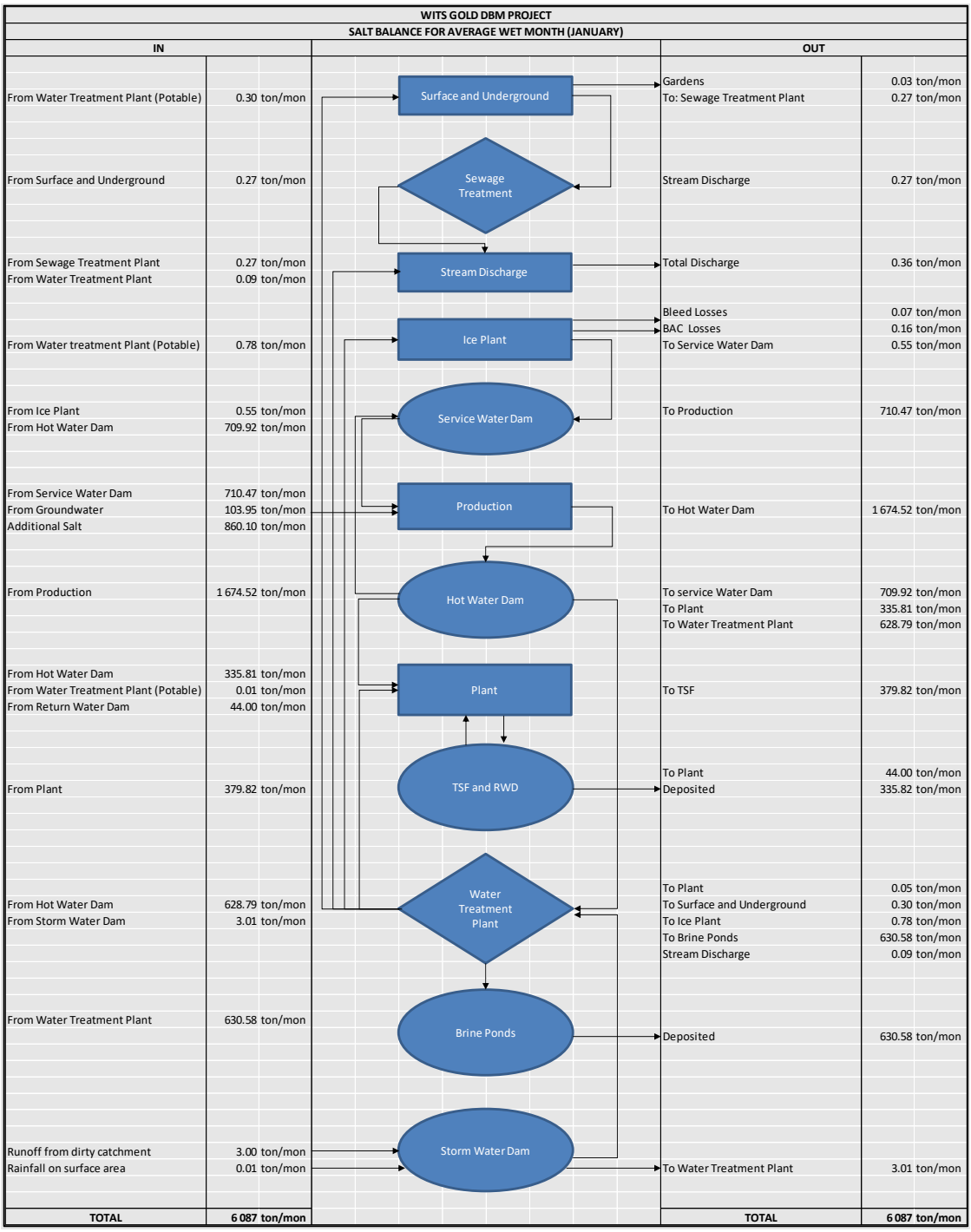


Figure 2-13: Proposed wet salt balance

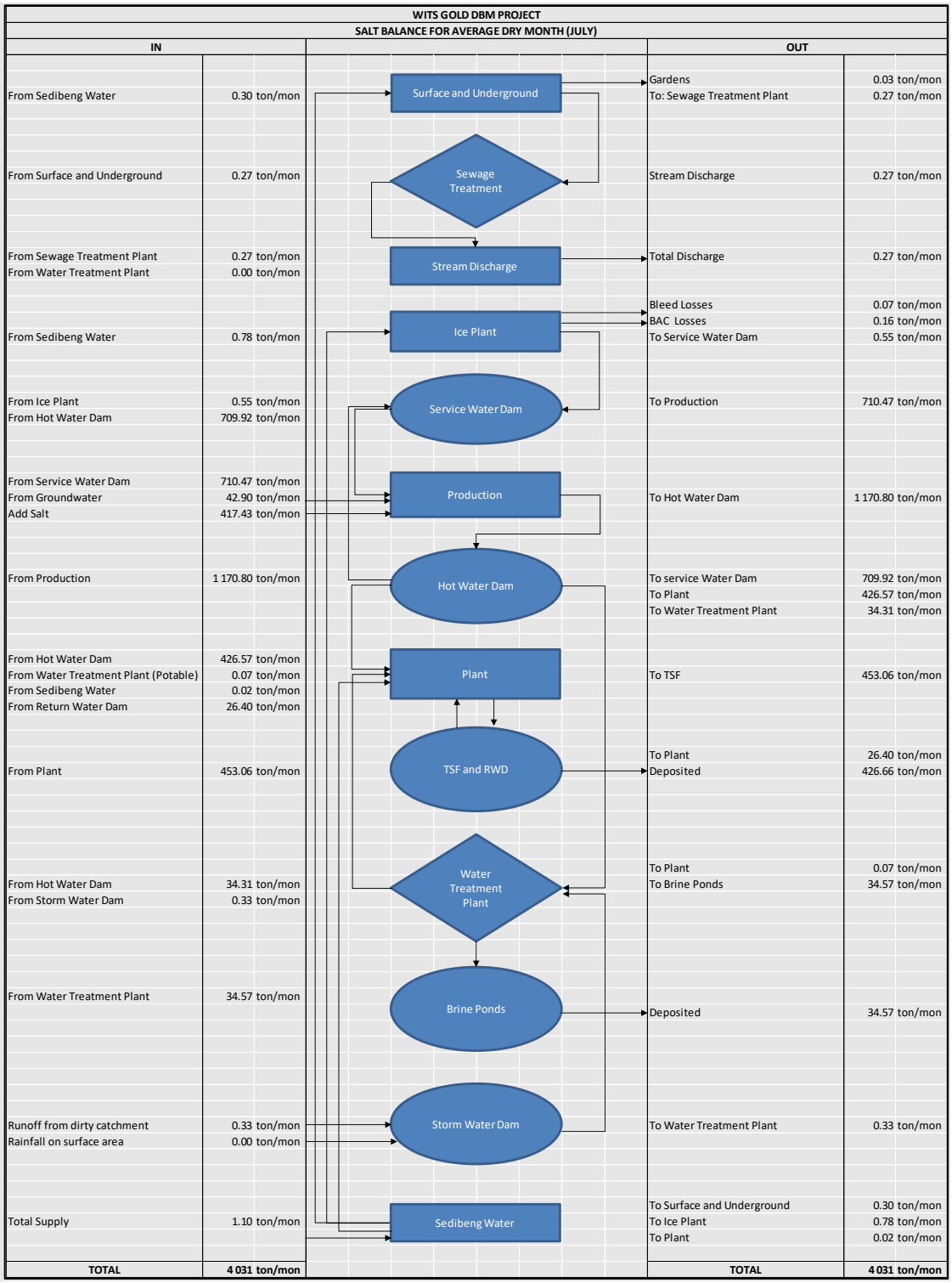


Figure 2-14: Proposed dry salt balance

2.10 Project Planning Phases and Associated Activities

2.10.1 Construction Phase

The following activities are proposed:

- Construction of service roads;
- Construction of power lines where necessary;
- Construction of access roads where necessary;
- Water pollution control structures;
- Construction of shaft access;
- Construction of ancillary infrastructure; and
- Clean and dirty water infrastructure.

During the construction phase, the following activities could impact on the bio-physical environment and the cultural/social setting:

- Stripping of vegetation;
- Stripping of topsoil and subsoil as the construction activities start on site;
- Impact on water system and associated wetlands due to the construction activities;
- Construction of the clean and dirty water systems;
- Possible compaction of soils by the establishment of topsoil stockpiles and berms; and
- Dust dispersion from infrastructure construction and boxcut construction activities.

2.10.2 Operational Phase

During the operational phase, the following activities could impact on the bio-physical environment and the cultural/social setting:

- Underground Mining Activities;
- Possible compaction of soils and erosion of soil stockpiles and berms by wind and water;
- Impact on surface- and groundwater system due to the operational activities;
- Dust dispersion from workings;
- Clean and dirty water control and maintenance;
- Sewage management; and
- Ancillary activities (workshops, offices, etc) .

2.10.3 Decommissioning and Closure Phase

When the decision is taken to decommission the mine, the following objectives and proposed actions for the decommissioning and closure phase of the mine could be considered depending on the outcomes of the EIA and draft EMP:

- Recovery of all saleable infrastructure;
- Demolition of structures;
- Ripping of all compacted areas, which will be followed with amelioration and vegetation;
- Ensure that all remaining dumps, piles and slopes are sufficiently shaped to blend in with the surrounding infrastructure;
- Amelioration and vegetation of all disturbed areas;
- Maintenance of all re-vegetated areas up until such areas initiate succession and create a sustainable cover;
- Monitoring of key environmental variables (i.e. soils, vegetation, groundwater and
- surface water) in order to demonstrate stability of rehabilitated areas;
- Weed management after closure, limited to areas disturbed by mining or included in the mining area.
- Monitoring will be undertaken for a specific period after closure or up until such time that all areas create a sustainable cover and ecosystem.

SOFS DBM Project Extension

Pre - Construction Phase

During the pre-construction phase, the following requirements are put in place:

- Amendment of the Environmental authorisation;
- Amendment of the Mining Right;
- Obtain any licenses and permits required for the new proposed mining area;
- Conduct specialist investigation on the new area to be included; and
- Baseline monitoring and current state of the new area (key environmental variables)

Construction Phase

There is currently no infrastructure or facilities planned for the additional area. Therefore, no construction activities are planned.

Operational Phase

During the operational phase, the following activities could affect the surrounding area:

- Underground Mining Activities;
- Water abstraction;
- Clean and dirty water control and maintenance;

Decommissioning phase

During the decommissioning phase the following activities could have an impact on the surrounding environment.

- Sealing of shafts;
- Possible flooding or continuous pumping of underground area;
- Monitoring of possible impacts on groundwater and decanting.

3 PROJECT ALTERNATIVES

A number of alternative options have been evaluated during the mine design. A high-level qualitative risk assessment was performed to determine the most preferred option from an environmental perspective.

3.1 Mining Methodology

3.1.1 Tailings Facility Site Alternatives

At the onset of the environmental impact assessment process, the EAP was advised that a Greenfields TSF site would be located within the proposed infrastructure footprint area. The option to switch from the proposed Greenfields TSF option to that of a Brownfields TSF option occurred after consultation between the applicant and the current owner of the Brownfields TSF site. Due to the nature of this project it was anticipated that the potential impacts associated with the Greenfields TSF site would be more significant than that of the Brownfields TSF site and for that reason the Brownfields TSF site was deemed the preferred option. Further discussion on the Greenfields and Brownfields sites (Figure 3-1) are included in the sections that follow.

3.1.1.1 Option One (Greenfield Options Site 1-3)

This area is adjacent to Merriespruit tailings dam - No agricultural activities in the form of cultivation is taking place on the land, however the area is used for livestock grazing. Proximity to Meloding township and the influence of dust and noise remains the most compromising factors.

3.1.1.2 Option Two – Preferred (Brownfields Site)

The area is highly disturbed and does not reflect any agricultural and natural land use. The area is furthest from Meloding township and social receptors. Current land use comprises a highly disturbed historical mining area thereby rendering it most suitable for a tailings dam facility (Refer to Appendix J).

The existing rehabilitation liabilities associated with the Brownfields TSF site will be taken over by the applicant, if agreement to make use of this site is reached. This will only be undertaken after a full assessment of the current rehabilitation liabilities pertaining to the Brownfields TSF site has been undertaken by an independent assessor and a full reconciliation of the fund completed.

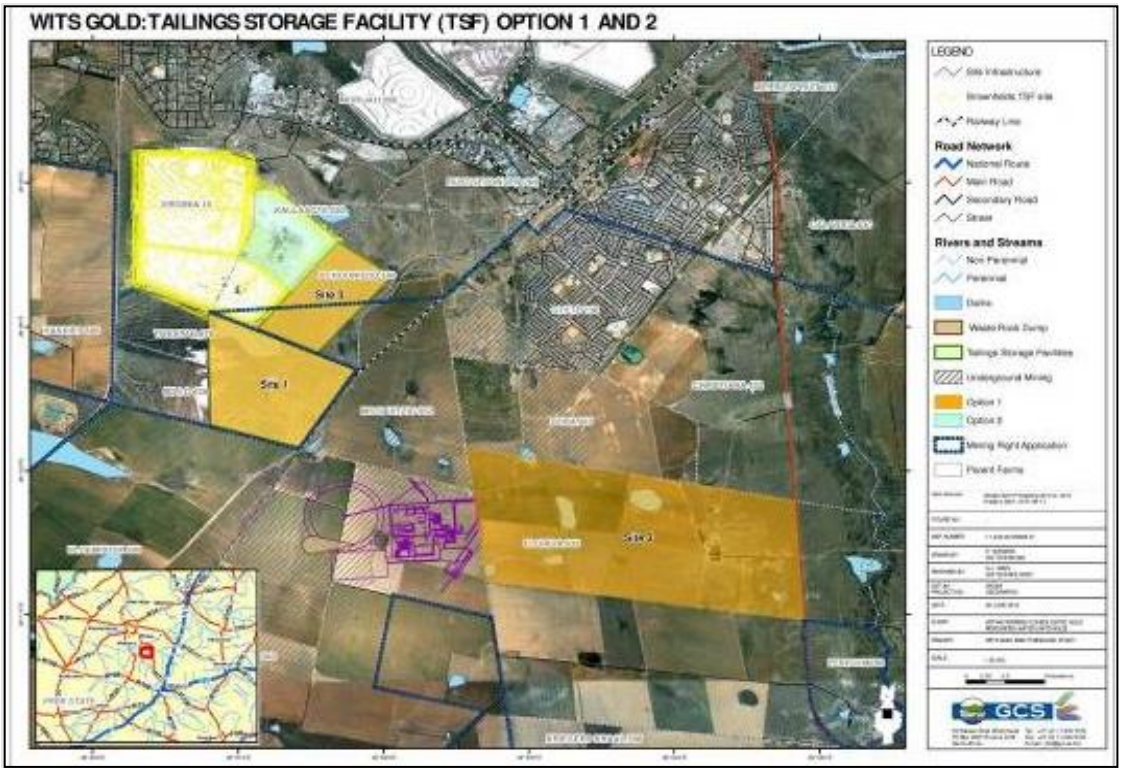


Figure 3-1: Tailings Storage Facility (TSF) Option 1 and 2

3.2 Land Use Alternatives

Primarily the mine project infrastructure area is utilized for agricultural purposes in the form of dry-land, livestock, maize, sunflower and wheat farming. The area of the preferred tailings dam site (Option 2) has been previously utilized for mining purposes. The alternative area (Option 1) is barren natural land, adjacent to Harmony's Merriespruit tailings dam. Land use has been taken into account.

3.3 Benefits of the Project

Following initial consultation with the Matjhabeng and Masilonyana Local Municipalities, regarding needs and priorities, as identified by their Integrated Development Plans (IDPs), the following projects were put forward as requiring further investigation:

- Virginia Farm; and
- Tikwe Lodge to be turned into Eco Tourism, Events Hosting and Agricultural Training.

Wits Gold has also investigated the possibility of taking over certain SLP projects that are currently being phased out by Harmony Gold (Appendix J) and the Beatrix operations of Gold Fields.

The DMR has offered to co-ordinate the prioritisation of Local Economic Development (LED) projects with Wits Gold, the relevant municipalities and existing mines in the area. The DMR further requested that additional projects be identified based on new IDP documents that are being finalised by the abovementioned Local Municipailities. Meetings have been initiated with the Matjhabeng Municipality for discussions based on their recently released draft IDP document for the 2012-2016 period.

Once the DMR has, in principle, approved of the proposed Local Economic Development (LED) projects, further consultation with the Local Municipalities and relevant stakeholders will take place to finalise the project implementation requirements as well as the way forward once the Mining Right has been granted.

3.3.1 Small, Micro and Medium Enterprises (SMME) development

Wits Gold will contribute towards mine community economic development by using available Black Economic Empowerment (BEE) compliant companies for the provision of goods and services to the mine. Wits Gold is committed to awarding procurement contracts to local companies which demonstrate suitable Historically Disadvantaged South Africans (HDSAs) participation in Management (and general employment) as well as local companies in order to sustain the local economy of the area.

Wits Gold intends to support Small, Micro and Medium Enterprises (SMMEs), where possible, which will be able to provide them with the relevant services. These SMMEs will be appointed on a contractual basis, on the condition that their services are relevant and the quality thereof, acceptable.

3.3.2 Housing and living conditions

In order to reduce single sex accommodation and to prevent the establishment of hostel accommodation, Wits Gold proposes to use local labour to construct houses on available land for purchase by the mine's employees. Housing allowances will be provided to staff and local housing within the towns of Virginia, Theunissen, Meloding and Welkom will be used as far as possible.

The Applicant will promote home ownership; therefore employees will be afforded the opportunity to participate in wealth accumulation through the ownership of property. It is believed that this will in the long term ensure that housing is sustainable even after mine closure. The Company will facilitate housing development in the host municipality area to

ensure adequate and acceptable housing and living conditions of the employees. It is believed that this will build a sustainable economy and quality of life of the host community through integration of employees housing needs into the host municipality's housing and settlement plans.

The Company aims to improve the quality of life of all employees and restore the self-respect and dignity of employees in line with the Mining Charter and the aspirations of employees through:

- Conducting individual assessments with employees to determine their current and aspired housing conditions;
- Encouraging employees to take home ownership in existing sustainable areas;
- Establishing an open communication process whereby employees may communicate any problems and suggestions with regards to their housing needs;
- Facilitating the development of housing options that will accommodate employees housing needs;
- Providing programmes to educate employees with regard to home ownership and budgeting; and
- Facilitating private investment from developers and/or banks for home owners.

Provision will be made for a R 10,000,000.00 investment over 5 years to improve on the housing conditions of mine workers.

3.3.2.1 Nutrition

In order to ensure that employees are aware of the advantages of a balanced diet, nutrition awareness will be promoted through a Wellness Programme.

The Company will adopt a comprehensive approach to address nutrition and this will be addressed in the employee Wellness Programme, which will be developed as part of the implementation plan of the Social and Labour Plan (SLP). It is envisaged that the employee Wellness Programme will enhance the standard of living of all employees.

The employee Wellness Programme will focus on:

- Nutrition, where staff will be advised on healthier eating habits which will include:
    - Measures to improve nutrition, which will be done in accordance with the standards set out by the Chamber of Mines of South African Health Standards Authorities;

  - Inducting and informing all employees on the National food based dietary guidelines. The intention will be that employees themselves acknowledge that each one has a role to be conscious of healthy eating habits;
- Educating employees and their families with regard to nutrition and wellness programmes with emphasis on HIV/AIDS and Tuberculosis, and provide information on common injuries that cause back pains;
- Wellness workshops which will include nutrition, exercise, stress management etc;
- Wellness incentive programme: Reward employees for making positive choices; and
- Providing health supplements to employees.

The Company will retain the services of a specialist healthcare services provider in order to compile a comprehensive wellness strategy which will integrate with community health issues. The strategy will include a health improvement programme that will address nutritional wellness, body wellness, emotional wellness and social issues.

3.4 No-Go Principle

If the no-go principle were applied, then the area in which the proposed SOFS Phase 1 (DBM Project) Mining Operation is located would continue with the land use and activities that are currently in place, namely commercial agriculture activities. The potential job creation benefit of the project (±1,635 jobs over the life of mine) would not materialise and the opportunity to employ women in mining, as per the requirements of the MPRDA, would also not occur. In addition the potential loss of contribution to economic development in the project area as well as compliance with the regions IDP, based on the SLP developed for the project, would be limited.

The no-go option would ensure that there would be significantly less environmental impacts in the area as a result of mining operations. Impacts would only be related to the existing mining operations within the Virginia area, specifically the Harmony gold mining operation located to the north west of the proposed project area. In addition to this, the existing Harmony Merriespruit TSF would remain as is, with minimal rehabilitation potential.

The continuation of commercial agriculture activities, as are currently taking place, would ensure that the current status quo in terms of revenue, economic contributions, employment and housing would continue. The potential expansion of these commercial agriculture enterprises would be limited to the areas currently being used specifically since the establishment of informal housing within the area is already evident.

If mining was not undertaken in the project area, the area could be utilised for housing developments and, potentially, other small, medium and large scale commercial opportunities. Alternatively, small-scale agricultural developments could take place (i.e. crop and livestock farming).

No—Go Option for SOFS DBM Project Extension

If the no-go principle is applied for the SOFS DBM Project Extension area the current land use of agricultural use and residential will continue as the activities would also continue if the project does commence. The underground mineral resources would not be utilised and the sterilisation of the mineral resource is possible.

4 DETAILED ENVIRONMENTAL DESCRIPTION

This section of the report provides a summarised description of the environment as obtained from specialist investigations commissioned by GCS in 2012 (Appendix D). The information plays an important role in identifying the significance of the potential impacts which may occur as a result of the project.

4.1 Geology

The geological description was obtained from the Geohydrological study dated May 2012 conducted by GCS (Pty) Ltd (Appendix D-1).

4.1.1 Regional Geology

The DBM Project is part of the southern Free State Goldfields, centred close to the town of Virginia. It stretches east to west across the axis of a large north-easterly –plunging synform representing the southern closure of the Central Rand Group of the Witwatersrand Supergroup. Structural deformation is dominated by numerous approximately north-south trending normal faults which predominantly downthrown to the west (Cunningham and Spindler, 2009).

4.1.2 Local Geology

The rocks of the Karoo Supergroup, overlain by a thin layer of Quaternary sand (Q-s), extend over the DBM Project area at surface as indicated in
Figure 4-1. These strata vary in thickness from 350 m to 960 m as was established through drilling results from numerous exploration boreholes. At surface the Karoo consists of the Adelaide Subgroup (Pa) (Permian age) of the Beaufort Group, comprising mostly of mudstone and shale with subordinate sandstone.

During late Jurassic times the Karoo strata was intruded by dolerite (J-d). These intrusions (highlighted in purple) mainly occur in the south eastern and north eastern sections of the study area. This intrusion into Karoo strata caused the weakening of those lithologies at the contact zone, which resulted in preferential flow paths for groundwater.

Below the Karoo Sequence the stratigraphy of the Ventersdorp Supergroup shows considerable lateral variability across the SOFS study area. Within the western section of the

project area this sequence is comprised of thick coarse clastic sediments of the Platberg Group.

The Ventersdorp strata are underlain by the economically important Central Rand Group of the Witwatersrand Supergroup, which comprises the Johannesburg and Turffontein Subgroups of the Central Rand Group. In the Johannesburg Subgroup, five unconformity bounded sequences (UBS's) have been recognised, with the Virginia Formation at the base, passing upwards into the St Helena, Welkom and Dagbreek Formations.

Gold and uranium bearing conglomerates are developed on the basal unconformities of each of these subdivisions, including the Leader Reef (Dagbreek Formation), the B Reef (Spes Bona Formation), the Kalkoenkrans Reef (Aandenk Formation) and the Beatrix/VS5 Reef (Eldorado Formation).

Cunningham and Spindler (2009) reconstructed the Central Rand Group stratigraphy in the southern Free State Goldfield indicating a progressive southerly thinning of the sequence into the DBM Project area. They related this attenuation of the Central Rand Group to uplift during the latter phase of deposition in the Basin, causing erosion by superimposed, on lapping unconformities. These erosional relationships and the resulting sub-cropping of strata are probably the primary control on the distribution of the four gold bearing reefs within the proposed project area.

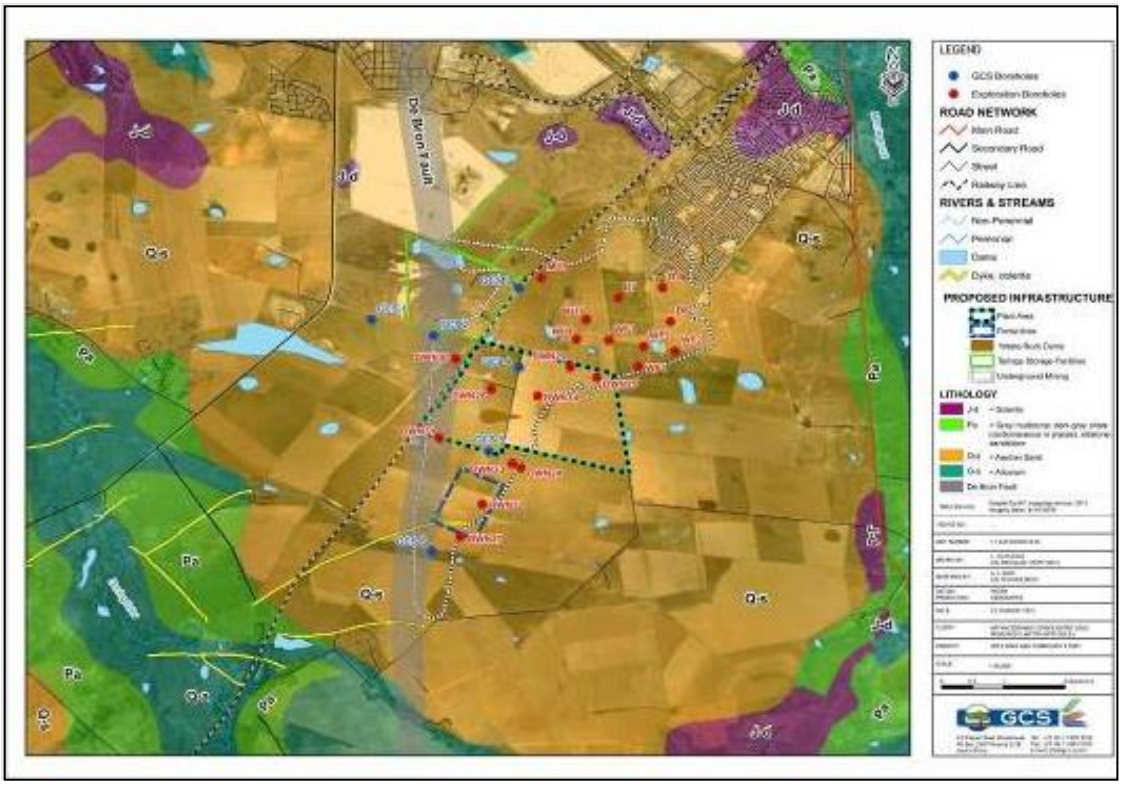


Figure 4-1: Geology Map

4.1.3 Structural Geology

The Beatrix/VS5 unconformity at the base of the Eldorado Formation is developed across the entire southern Free State Goldfield and therefore represents a reference surface for the construction of the structural map of the area. The Central Rand Group within the southern Free State Goldfield is deformed in a broad syncline, with smaller parasitic folds marking the southern limit of the prospective Witwatersrand Basin. This compression was responsible for active uplift towards the southern margin of the Goldfield that resulted in a complex interplay between a series of superimposed unconformity surfaces. Repeated erosion of the footwall sequences caused the incorporation of this detritus into the reefs overlying the unconformities. The north-easterly- plunging fold has been off-set by later normal faults related to the regional Platberg age extensional event. The normal faults generally strike north-south, the most significant being the De Bron Fault, which has a relative down-throw of more than 1000 m towards the west. The De Bron Fault forms the natural western boundary of the De Bron study area. A series of smaller thrust faults, that cause only minor stratigraphical duplication trends northeast-southwest.

The De Bron Fault is Platberg in age, younger than the Wits and Ventersdorp Lavas, and therefore displaces both. To a large extent it also controls the distribution of the Platberg

Graben sediments which forms thick deposits in the graben west of the fault, but not to such an extent on the horst underlying the project area. Variations of the Karoo occur across the De Bron Fault. This is as a result of erosion that occurred faster across the Platberg Sediments west of the fault in comparison with the more resistant Wits quartzites
east of the fault zone (Personal communication with D. Muntingh, Wits Gold Exploration Manager).

4.1.4 Sedimentology of the Conglomerate Reefs

In the past, a number of exploration companies have assessed different parts of the southern Free State Goldfield independently, resulting in the identification of up to eight different reefs. Since acquiring a complete set of this historical information, including the borehole core, Wits Gold has collated this previous work and was able to observe the progressive stratigraphic and lateral reef variations across the goldfield.

4.1.4.1 Leader Reef

The Leader Reef is a tabular body above the Dagbreek unconformity. It is however only preserved over the northern portion of the southern Free State Goldfield, before it subcrops against either the Eldorado or Aandenk unconformities. The lower portion of the Dagbreek Formation is generally characterised by interbedded lithic protoquartzites, conglomerates, pebbly quartzites and scattered pebble zones that may be several metres thick. These conglomerates are typically oligomictic with medium to small quartz and blocky chert pebbles.

4.2 Topography

The topographical description was obtained from the Terrestrial Impact Assessment (Appendix D-3).

The topography of the region is described as ‘Plains and Pans’, situated approximately 1,400 meter above sea level. No declared conservation area or centre of endemism is present within the immediate vicinity of the study area. The Willem Pretorius Nature Reserve is situated approximately 25km to the southeast.

4.3 Climate

The climatological description was obtained from the Hydrological Impact Assessment (Appendix D-5).

In general the climate will be typical of the region, with hot and dry summers (average daily peak temperatures in the order of 27°C with individual daily peaks of up to 40°C) and cold and dry winters (average daily minimum temperatures of about 2°C with individual daily minima of down to -4°C). Mean Annual Evaporation (Symons pan) will be in the order of 1620 mm.

4.4 Soil, Land Use and Land Capability

The section below was undertaken by TerraAfrica Consult as part of the detailed Soil, Land use and Land Capability Assessment, February 2012 (Appendix D-2).

4.4.1 Land type data

Two different land types were identified on the proposed Wits Gold DBM project site. These land types are Bd20 and Dc8. Below follows a description of each of the land types identified. Land type Bd20 is found in landscapes where the slope everywhere is between 0 and 2% while the slope length differs for the different positions. For Position 1, slope length is between 1000 and 3000 m and 500 to 2000m for Position 3. Landscape Positions 4 and 5 has slope length between 50 and 300 metres. The soil forms in this land type mainly have sandy clay-loam texture with clay percentages between 6 and 30%. The geology underlying this land type is shale, mudstone and sandstone of the Ecca and Beaufort Groups.

Land type Dc8 is found in four different landscape positions i.e. 5, 5(1), 5(2) and 5(3). Positions 5 have slopes of between 0 and 3% and slope lengths of 200 to 1500m. Positions 5(1), 5(2) and 5(3) all have slopes between 0 and 2% but shorter slope lengths between 50 and 1000m, depending on the position. The soil forms in this land type have a variety of texture classes ranging from clay to sandy clay-loam. The geology underlying this land type is mainly Ecca sandstone, shale and grit. Dolerite sills occur in places.

4.4.2 Land Capability

The soil and land types identified in the study area could be classified into three land capability classes i.e. land with arable land capability (905 ha), grazing land capability (122 ha) as well as land with wetland land capability (23 ha). The deep yellow-brown Clovelly and Avalon soil profiles together with the slightly structured soil profiles of the Oakleaf soil form are the soil forms with arable land capability. The Valsrivier and Mispah soil forms can be

classified as land with grazing land capability for the strongly structured B1-horizon of the Valsrivier form as well as the rocky limitations to soil depth of the Mispah form make these soil forms less suitable for crop production.

The Katspruit soil form has hydromorphic properties and is therefore classified as soil with wetland land capability. The areas with wetland land capability should be conserved because of the water purification and water storage capacity of wetland soils.

4.4.3 Land Use and Agricultural Potential

The soil and land types identified in the study area could be classified into three land capability classes i.e. land with arable land capability (905 ha), grazing land capability (122 ha) as well as land with wetland land capability ([1]23 ha), based purely on the soils assessment. The deep yellow-brown Clovelly and Avalon soil profiles together with the slightly structured soil profiles of the Oakleaf soil form are the soil forms with arable land capability. The Valsrivier and Mispah soil forms can be classified as land with grazing land capability for the strongly structured B1-horizon of the Valsrivier form as well as the rocky limitations to soil depth of the Mispah form make these soil forms less suitable for crop production.

The Katspruit soil form has hydromorphic properties and is therefore classified as soil with wetland land capability. The areas with wetland land capability should be conserved because of the water purification and water storage capacity of wetland soils.

4.5 Flora

The section below was undertaken by Bathusi Environmental Consulting as part of the detailed Terrestrial Biodiversity Assessment, 2012 (Appendix D-3).

The largest extent of the study area is located in the Vaal-Vet Sandy Grassland (Endangered Status), with the eastern portion situated in the Highveld Alluvial Vegetation (Least Threatened Status). The SANBI database indicates the known presence of only seven plant species within this particular ¼-degree grid (2826BB). This low diversity is the result of the poor floristic knowledge (under sampling) of the area and is not regarded a true reflection of floristic diversity. No floristic species of conservation importance are indicated to occur in

[1] According to the Wetland Study the area consisting of wetlands is 61ha based on wetlands, vegetation and soils.

this region (POSA, 2011), which is similarly a reflection of the poor floristic knowledge of the area.

The site investigation revealed the presence of 103 plant species in the study area. The diversity is regarded relative diverse, reflecting not only on the species richness of the regional vegetation types, but also the effect of transformation and the influx of weeds and alien invasive species. Grasses and forbs dominate the species diversity a low percentage of the species composition comprises woody individuals. The floristic diversity of the site is represented by 41 plant families, dominated by Asteraceae and Poaceae.

No Threatened plant species were observed during the site investigation. Taking the habitat variability and status into consideration, a medium-low probability for the presence of Red Data species is estimated for the study area. The following species are included in the Declining category:

- *Boophone disticha* (Bushman Poison Bulb, Tumblehead).

The following species are included in the Free State Nature Conservation Act 2007 (Provincially Protected Species, Article 30)1:

- *Boophone disticha* (Bushman Poison Bulb, Tumblehead);
- *Harpagophytum* species (Grapple plant, Wood spider);
- *Asclepias stellifera;* and
- All Helichrysum species (*H. aureonitens, H. caespititium, H. rugulosum*).

Results of the photo analysis and site investigations revealed the presence of the following habitat types:

- Agricultural Fields (878.3ha, 80.6%, Low Floristic Sensitivity);
- Dams/ Impoundments (1.8ha, 0.2%, Medium Floristic Sensitivity);
- Degraded Grassland (89.8ha, 8.2%, Medium-low Floristic Sensitivity);
- Endorheic Pans (32.7ha, 3.0%, Medium-high Floristic Sensitivity);
- Exotic Trees (4.4ha, 0.4%, Low Floristic Sensitivity);
- Homesteads & Infrastructure (22.5ha, 2.1%, Low Floristic Sensitivity); and
- Natural Grassland (59.6ha, 5.5%, High Floristic Sensitivity).

The study area is characterised by severe habitat transformation resulting from agricultural activities, also reflecting regional transformation levels, resulting in extremely limited remaining natural grassland habitat on a local and regional scale. These areas are generally unsuitable for agriculture, either to the ephemeral wetland status of endorheic pans, or shallow and poor soils, as in the case of the remaining grassland areas.

Agricultural fields comprise the largest extent of the study area; no natural vegetation (Vaal-Vet Sandy Grassland) remains in these parts and consequently a low sensitivity is ascribed. Endorheic pans are however situated within the agricultural fields and, although not exhibiting pristine or important floristic attributes, are likely to perform vital ecological roles on a local and regional scale. The importance of these areas cannot be underestimated and hence a medium-high sensitivity is ascribed to these areas. It is strongly recommended that these areas be excluded from the proposed development.

Comments from the wetland specialist should also be considered in terms of these recommendations. Terrestrial grassland habitat is restricted to the eastern part of the study area, comprising the Highveld Alluvial Vegetation Type. A large portion has been subjected to insowing and surface disturbances and, together with a high grazing pressure, consequently exhibit a relative poor status. In contrast, the remaining portion of natural grassland is regarded species rich and relative pristine. A number of provincially protected plants are present within this part of the study area and hence a high sensitivity is ascribed to this portion. It is strongly recommended that this part of the study area be excluded from the proposed development.

4.6 Fauna

The section below was undertaken by Bathusi Environmental Consulting as part of the detailed Terrestrial Biodiversity Assessment, 2012 (Appendix D-3).

The presence of 61 animal species was confirmed during the site investigation, additionally 15 invertebrate families were also observed during the survey period. The animals (species and families) observed in the study area are, for the most part, typical grassland species and representative of grassland animal communities that are widespread in the regional areas of the Vaal-Vet Sandy Grassland and in the larger extent of the Dry Highveld Grassland Bioregion (and associated pans).

It is estimated that 48 of the 66 Red Data animals listed for the Free State Province have a low probability of occurring in the study area, 10 have a moderate-low probability and 10 a moderate probability of occurring in the study area. The presence of three Red Data species was confirmed during the survey period, namely the Lesser Kestrel (VU), Lanner Falcon (NT) and Secretary Bird (NT). Additionally, evidence of Aardvark (Orycteropus afer) was observed on the site. This species is a provincially protected species (Free State Nature Conservation Act 2008, Schedule 1).

The following faunal sensitivities were ascribed to available habitat types:

- Agricultural Fields (Low Faunal Sensitivity);
- Dams/ Impoundments (Medium-high Faunal Sensitivity);
- Degraded Grassland (Medium Faunal Sensitivity);
- Endorheic Pans (Medium-high Faunal Sensitivity);
- Exotic Trees (Low Faunal Sensitivity);
- Homesteads & Infrastructure (Low Faunal Sensitivity); and
- Natural Grassland (High Faunal Sensitivity).

Most of the study area has been transformed by agriculture and associated infrastructure, remaining natural faunal habitat found in the study area is represented by isolated fragments of natural and degraded grassland and a couple of endorheic pans. This significant loss of faunal habitat and fragmentation of the remaining patches of untransformed habitat have undoubtedly led to a loss of species richness and faunal diversity within the area investigated. Furthermore, prosecution of animals, directly by carnivores or indirectly (species such as Cape Vulture) and the use of agrochemicals and pesticides resulted in a loss of species locally (study area) and regionally.

Animals observed in the study area mainly include generalists, but grassland and wetland specialists also are present. Faunal communities of the study area attest to the ecological functionality of both the grasslands and wetlands found in the study area; the presence of three Red Data grassland birds and a provincially protected mammal confirms the sensitivity of the natural grasslands of the study area despite the isolated nature of the grassland fragments remaining.

During the field investigation, none of the endorheic pans had significant surface water; it is reasonable to assume that the species richness of these areas will increase significantly when the presence of surface water attracts a variety of water birds and invertebrates.

4.7 Wetland Assessment

The section below details the wetland assessment as undertaken by Wetland Consulting as part of the detailed Wetland Impact Assessment, May 2012 (Appendix D-4).

The study area is located within the Vaal River Catchment (Primary Catchment C), and more specifically within quaternary catchments C42K, C42H and C42J. No rivers or streams cross

the study area, though the Merriespruit, a tributary of the Sandspruit, flows past just to the east of the site.

4.7.1 Wetland Delineation and Classification

Approximately 6.2 % of the study area, equal to roughly [2]61 hectares, was classified as wetland, consisting of two different wetland types, hillslope seepage wetlands and pan wetlands, as well as 3 small farm dams. A map of the delineated wetlands within and immediately adjacent to the study area is provided in Figure 4-2.

The dominant wetland type recorded on site was hillslope seepage wetlands, though most of the seepage wetlands were associated with, and feeding into, the pan wetlands. The landscape of the study area, which is characterised by a largely flat plateau with low slopes and no defined drainage lines and typically sandy soils, meets the main characteristics required for the development of pan fields according to Allan et al (1995):

a. Lack of integrated drainage; and
b. Average slope of less than 1 degree (slope measured at less than 0.2 degrees).

In such areas, given the flat terrain and lack of drainage, water forms pools following rainfall events. Once these pools dry, they leave behind areas of bare soil susceptible to wind erosion and deflation by wind, deepening the pool over time. The pooling and subsequent evaporation of water also leads to an accumulation of salts within the pans, which speeds up the weathering process and further precludes the establishment of vegetation in these areas, maintaining them as bare soil areas prone to wind erosion and deflation (Allan et al., 1995) when dry. Overtime the pools increase in depth and size and form the pans as we now see them in the landscape.

The pan and hillslope seepage wetlands are likely maintained by rain falling within the wetland catchments. The sandy soils of the area as well as the low slopes result in limited surface runoff being generated, with most rainfall entering the soil profile. The dominant soil forms of the area, Clovelly and Avalon, are characterised by aquitards in the soil profile (soft plinthite in the case of Avalons, unspecified material in the case of Clovelly, but assumed to be sandstone) that restrict the deeper infiltration of rainwater into groundwater and thus result in lateral seepage of infiltrated water through the soil profile and the formation of a perched water table. Across most of the site this takes place at sufficient depth within the soil profile to preclude wetland formation, but where the aquitard approaches the soil

[2] According to the Soils, land-use and land capability assessment 23 ha is classified as wetlands, based purely on soils.

surface and seasonal saturation of the soil profile takes place within 500 mm of the soil surface, wetland conditions develop.

The above scenario is expected to take place under normal rainfall conditions. Under extreme rainfall events, such as experienced during the late summer of 2010, surface runoff is likely to play a significant role in water inputs to the pans on site. Heavy rainfall is likely to lead to saturation of the soil profile and thus increased surface runoff generation or, in the case of high intensity storms, the rainfall might exceed the rate of infiltration, also resulting in surface run-off.

The study area is used extensively for cultivation, with more than 776 ha (78.3 % of the site) currently under cultivation and a further 88 ha (8.9 % of the site) previously cultivated. This cultivation extends into the hillslope seepage wetlands in many areas, with roughly 43 % of the wetland extent currently impacted by cultivation (26 ha of wetlands). However, the wetlands not directly impacted by cultivation have also been degraded by indirect impacts such as increased sedimentation as well as invasion by alien and weedy species, and some of these wetlands are also likely to have been cultivated in the past.

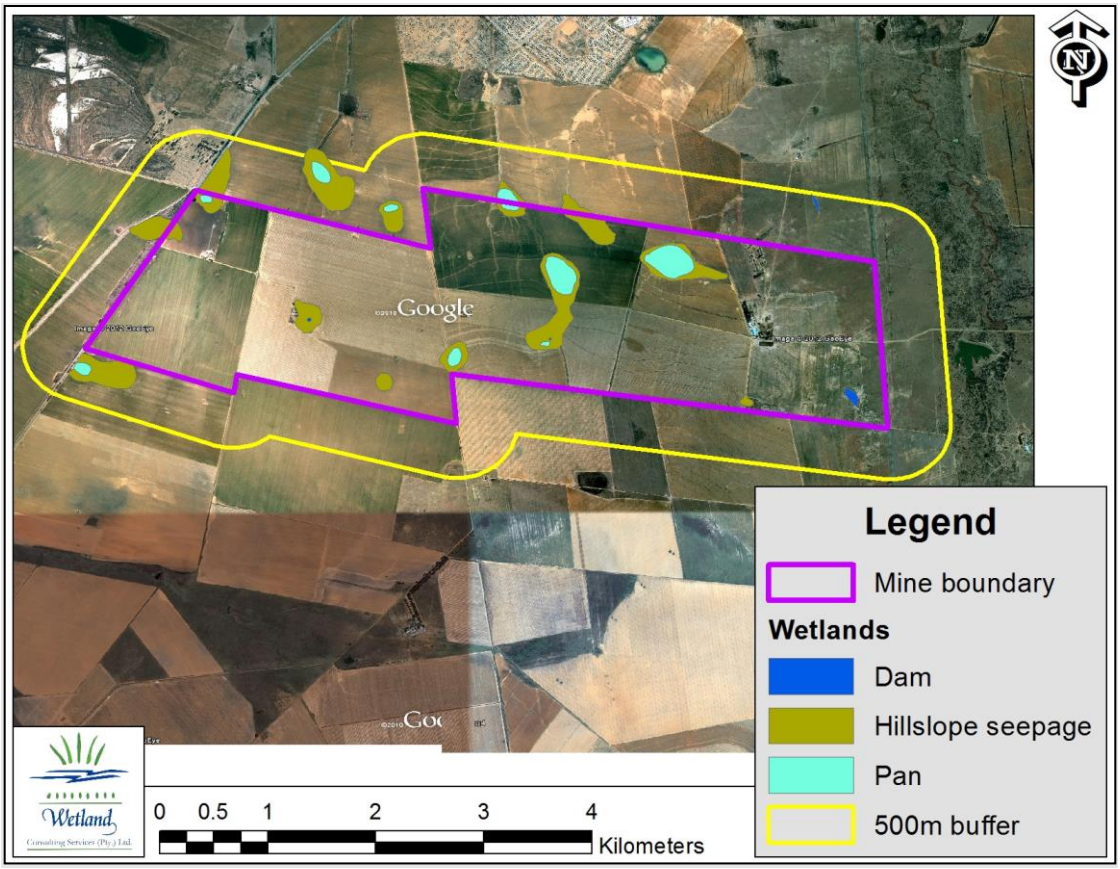


Figure 4-2: Map of the delineated wetlands on site

The pans on site were considered Moderately Modified (Category C), while seepage wetlands were considered Category D (Largely Modified) mainly due to extensive cultivation within the sub-catchments.

The functional assessment further indicated that the wetlands play only a small role in supporting hydrological benefits as they are mostly isolated from the surrounding stream network. The most important function is likely to be that of sediment trapping, and though this might be seen as a beneficial function performed by the wetlands, excess sediment inputs are at the same time leading to significant deterioration of the wetland habitat and over time could result in some of the smaller pan basins being completely filled.
The wetlands that are not cultivated provide islands of natural vegetation within a large expanse transformed by cultivation, and are thus considered to provide important refuge areas for faunal species occurring on site, especially during those periods where the fields are bare. The pans are also known to support populations of the Giant Bullfrog (Local Landowner, pers. comm.) and the Near threatened Secretary bird was observed foraging in one of the dry pans on site.

4.8 Hydrological (Surface Water) Assessment

The section below details the surface water assessment was undertaken by GCS (Pty) Ltd as part of the detailed Hydrological Assessment, May 2012 (Appendix D-5).

4.8.1 Floods and Runoff

The proposed mine infrastructure is planned to take place close to the crests of hills and watershed boundaries. There is no threat posed by surface floods. Catchment areas measured at Q1 and Q3 were 8,58 km2 and 28,49 km2 respectively.

4.8.2 Water Quality Results

Test results on base-line water quality samples were taken during the site visit (Figure 4-3). Some base-line quality results exceeded allowable results for drinking water. Of concern were the elevated levels of lead and arsenic found in some samples. Although water quality measured at Q1 indicated brackish water with elevated concentrations of total dissolved salts, water was still of acceptable quality. Elevated levels of lead and arsenic recorded for most base-line samples are, however, a cause for concern, as are elevated levels of magnesium and selenium. These results however could be due to an error in the lab as

additional results were taken and there was no evidence of elevated arsenic. Further monitoring is required. The results of base-line sampling tests are summarized in Table 4.1.

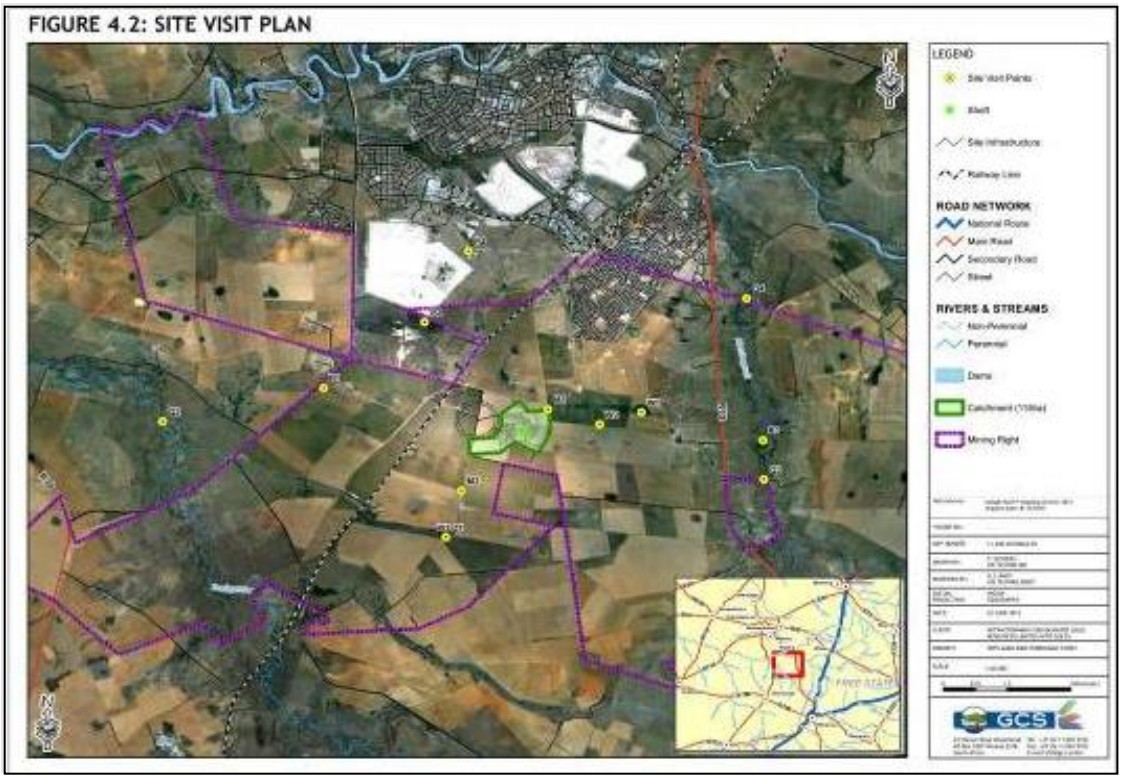


Figure 4-3: Site Visit Plan

Table 4-1: Water Quality Analyses Results

PARAMETER (ALL PARAMETERS MEASURED AS MG/ℓ UNLESS SPECIFIED)	CLASS I (ACCEPTABLE)	CLASS II (MAX. ALLOWABLE)	CLASS III (EXCEEDING)	SAMPLED 04-NOV-11			
				Q3&WET US	Q4	WET W37 Q1	WET1
pH Value @ 20°C	5-9.5	4-10	<4 or >10	8.2	8.3	8.3	7.6
Conductivity mS/m @ 25°C	<150	150-370	>370	57.2	84.3	244	48.5
Total Dissolved Solids	<1000	1000-2400	>2400	395	728	1496	480
Calcium, Ca	<150	150-300	>300	63	50	65	35
Magnesium, Mg	<70	70-100	>100	32	31	50	19.5
Sodium, Na	<200	200-400	>400	26	111	427	10.3
Potassium, K	<50	50-100	>100	7.7	2.9	28	76
Total Alkalinity as CaCO3	N/S	N/S	N/S	295	384	525	244
Chloride, Cl	<200	200-600	>600	7.7	48	483	23
Sulfate, SO4	<400	400-600	>600	14.4	37	57	<0.2
Nitrate, NO3	N/S	N/S	N/S	0.2	<0.1	<0.1	<0.1
Nitrate as N	<10	10-20	>20	<0.1	<0.1	<0.1	<0.1
Fluoride, F	<1	1-1.5	>1.5	0.3	0.5	0.5	1
Manganese, Mn	<0.1	0.1-1	>1	0.16	0.13	0.3	2.4
Chromium, Cr	<0.1	0.1-0.5	>0.5	<0.003	<0.003	<0.003	<0.003
Nitrite NO2 as N	<10	10-20	>20	<0.1	<0.1	<0.1	<0.1
Selenium, Se	<0.02	0.02-0.05	>0.05	0.04	0.04	0.04	0.04
Vanadium, V	<0.2	0.2-0.5	>0.5	<0.002	0.006	0.012	0.026
Cobalt, Co	<0.5	0.5-1	>1	<0.001	<0.001	<0.001	<0.001
Copper, Cu	<1	1-2	>2	<0.002	<0.002	<0.002	<0.002
Nickel, Ni	<0.15	0.15-0.35	>0.35	<0.003	<0.003	<0.003	<0.003
Lead, Pb	<0.02	0.02-0.05	>0.05	0.02	0.02	0.02	0.02
Zinc, Zn	<5	5-10	>10	0.43	0.5	0.47	0.52
Arsenic, As	<0.01	0.01-0.05	>0.05	0.04	0.04	0.05	0.05
Mercury, Hg	<0.001	0.001-0.005	>0.005	<0.001	<0.001	<0.001	<0.001

It will be important for the mine to sample, test and maintain a record of water quality measured in samples from both upstream and downstream of the mine, in order to demonstrate the mines contribution, if any, to poor surface water quality in the area.

4.9 Geohydrological (Groundwater) Assessment

The groundwater description was undertaken by GCS (Pty) Ltd as part of the detailed Geohydrological Assessment (Appendix D-1).

4.9.1 Existing Borehole Water Use

During November 2011 GCS undertook a hydrocensus investigation within a 2 km radius of the proposed DBM mining area. The purpose of the investigation was to establish the extent of groundwater use and establish borehole yields within the project area.

Water samples from boreholes were collected for analysis and where possible, the water levels were measured (many supply points were equipped with pumps, which made taking water levels impossible).

Boreholes predominantly are used for domestic water supply to farmers and their farm workers. A large proportion of boreholes that was identified are equipped with wind pumps.

The following information was obtained regarding specific farming operations:

- Water use on the farming properties of Mr. Andries Benjamin Pienaar takes place on Christiana 452; Dora 287; Nielle; Florida 633 and Hakkies 695. Boreholes Ni 2; Ni 3 and Ni 6 are all equipped and used for domestic water supply. More than one borehole is used for irrigating the garden (Ni 2; Ni 5 and Ne 7). Most of the boreholes on Mr. Pienaars neighboring farms are equipped with wind pumps that are used for live stock watering. Supply borehole Ch 1 on the farm Christiana also supplies farm workers with water for domestic use. The only supply borehole on Mooi Uitzicht is not equipped (MU 1) and was found, at the time of the assessment, to be contaminated with oil[3]. The borehole was used as a supply source for the exploration drilling programme, which must have been polluted in the process. According to the farm manager, supply borehole Ha1 on the Farm Hakkies 695 is brackish and not suitable for potable water use. Unfortunately the borehole was equipped with a non-

[3] The exploration drilling programme that contaminated the hole was not conducted by Wits Gold, but by previous holders of the mineral rights.

functional wind pump and no water sample could be abstracted for analysis to verify the water quality.

- The Thabo Trust farming operations are managed by M. Niemandt residing on the farm Amorenzia. Similar to the Pienaar farming operations, most of the supply boreholes are within close proximity to the main dwelling serving the purpose of domestic water supply to the main house and farm workers. A number of boreholes are not currently equipped (Am 1; Am 7; Am 8; Am 9; Am 10; and Am 11). The majority of the boreholes on the other farming properties of the Thabo Trust are equipped with wind pumps and used for live stock watering.
- The Van Huysteen Kinder Trust farm gets managed by Mr. Huysteen staying on the farm Plecy 82. His farming operations form the southern extent of the study area. Similar to the previous two water users, most of the supply sources occur within close proximity of the main dwelling. Other water uses within the domain of the trust area includes water supply to a small church for farm workers on Welgelegen 382 (We 1). An additional two dwellings on the farm Welgelee, which also belong to the Trust, are supplied by borehole We 1. The farm dwelling on the farm Moerdersdrift is currently vacant and both the supply sources Mo 1 & 2 are not in use currently.
- The B.J.G. Stadtlander Familie Trust has three farming properties within close proximity of the study area. These farming properties practice the following water uses:
    - The main dwelling and the residence of farm workers occur on Droomland. The main sources of potable water supply to these users are Dr 1 & 3.
    - Bloemhoek 509 has a single residence which is currently vacant. Supply source Bl 1, which is still equipped with a wind pump, used to be the supply source to the house. The other two Bloemhoek supply sources (Bl 2 & 3) were used for water supply to live stock (equipped with wind pumps).
    - All four the Weltevreden supply boreholes are equipped to provide drinking water for live stock. No homestead occurs on the property.

4.9.2 Aquifer Description

According to Cogho et al (1992) two aquifers occurs within the study area, namely:

- A shallow aquifer which lies within the weathered and fractured zones of the Karoo sediments; and
- The deeper fractured rock aquifer within the Ventersdorp and Witwatersrand rocks.

Cogho *et al.* (1992) reports that no obvious hydraulic connection exists between the two aquifers. One of the major reasons for this phenomenon may be the fact that none of the

numerous faults that occur in the Ventersdorp and the Witwatersrand rocks can be detected in the Karoo sediments. Therefore at depths (between 300 m -1200 m), due to the absence of faults and the compaction of the sediments, the permeability of the Karoo sediments will be low and groundwater movement will be negligible. However, in the Allanridge region where the Ventersdorp rocks outcrop, vertical leakage between the two aquifers may be possible.

4.9.3 Karoo rock aquifer

According to a WRC report (Report No 224/1/92) a historical borehole survey indicates that the occurrence of groundwater in the shallow aquifer is geologically controlled. Boreholes with moderate to high yields are associated with the intrusion of dolerite. Bedding plane joints in the sediments also contribute to aquifer development. A number of low groundwater yields were intersected during the GCS drilling program on bedding planes on lithological contacts. The drilling results do not indicate a defined intergranular or weathered aquifer, followed by a distinct fractured aquifer with depth. It is however concluded that both weathering and fracturing contribute to aquifer development with no distinct aquifer units based on weathering and fracturing.

Drilling results within the DBM site suggests that only low yielding aquifers exist within the predominantly mudstone/shale rock (Adelaide Subgroup of the Beaufort Group). The hydrocensus results also showed that no large scale groundwater abstraction take place from the Karoo aquifer, most likely a reflection of the relatively low aquifer potential. Groundwater blow-out yields from the newly drilled boreholes range between seepage to 1.1 l/s (average 0.5 l/s).

No site data on the aquifer potential of the deeper Karoo strata was available. Active aquifer systems is likely to decrease with depth (limited to some connate groundwater), with insignificant interaction between the Karoo and deeper Witwatersrand aquifer system.

The potential (safe) yield from an aquifer is linked directly to the recharge it effectively receives. Groundwater recharge is firstly dependent on rainfall. Effective recharge is that part of the daily rainfall which seeps into the ground after allowing for losses through interception by vegetation and by runoff. Of the effective rainfall, only a small fraction infiltrates down to the saturated zone and successfully recharges the groundwater source. The lower the rainfall, the more variable and uncertain recharge is.

Research has been done to try and quantify groundwater recharge, making use of various recharge determination methods. The typical values reported for recharge in the Karoo aquifers vary between 1% and 3% (Sami, 2003). According to Vegter (1995) the groundwater recharge for the Karoo is between 2.5% and 3.5% of Mean Annual Precipitation (MAP). A slightly more conservative value of 1% of MAP is used in this report. This is due to the prevalent occurrence of mudstone in the study area as well as an unsaturated layer of up to 20m thick which is present on site.

4.9.4 Witwatersrand aquifer

The fracturing and faulting in the competent Witwatersrand Group resulted in the development of a relatively high yielding aquifer. Large quantities of groundwater with a dominantly Na-Cl composition, are pumped to surface within the study area. This confined aquifer is not seen as a dynamic system within the study area, i.e. the recharge of the system is insignificantly low. The Na-Cl nature of the water with conductivities in the order of 500 mS/m is a reflection of the stagnant nature of the aquifer.

Currently no historic site information exists of aquifer yields, hydraulic parameters and the piezometric table within the Ventersdorp and Witwatersrand Supergroup.

4.9.5 Aquifer Hydraulics

4.9.5.1 Karoo Supergroup

Aquifer testing was conducted between 15 and 24 December 2011 on all of the newly drilled boreholes with sufficient amount of water for testing. As indicated in the boreholes were pumped at a constant rate and the abstraction rates at the different boreholes varied between 0.5 and 1.33 l/s. Time periods for the constant rate tests ranged between 5 and 105 minutes.

The aquifer test data was interpreted using the Cooper-Jacob (1946) method for drawdown data and the Theis residual drawdown method for the recovery data. Both methods were used to ensure better accuracy from the results obtained. T-values for the Karoo aquifer varies between 0.4 – 1.1 m/d.

4.9.5.2 Witwatersrand Supergroup

Little information currently exists on aquifer parameters of the Witwatersrand Supergroup within the DBM study area. The average transmissivity value used for modelling purposes in

the Free State Goldfield was 10 m^2/day according to a Water Research Commission report (No: 224/1//92). The exact water levels and therefore hydraulic gradients within the study area are unknown.

4.9.6 Newly Drilled Monitoring Boreholes

A total of six (6) new monitoring boreholes were drilled with borehole depths ranging between 23 m and 80 m. The drilling commenced on 12 December 2011 and was completed on 15 December 2011.

Results of the drilling are summarised as follow:

- Moisture was encountered in BH1_TSF at 38 m and thereafter some seepage at 40 m with a final blow out yield of 0.6 l/s.
- During the drilling of BH2_TSF water was intersected at 18 m and a final blow out yield of 0.4 l/s was measured.
- There was a water strike at 14 m in BH3_TSF with a final blow out yield of 0.5 l/s.
- Very little seepage was encountered during the drilling of BH4 and the final blow out yield was less than 0.1 l/s.
- BH5_Adit had two water strikes; at 23 and 28 m with a final blow out yield of 0.3 l/s.
- Numerous water strikes in BH6_Adit were intersected at shallow depths (6, 8, and 13 m) and the final blow out yield was 1.1 l/s.

4.9.7 Groundwater Levels

Groundwater levels were measured in 59 boreholes within the DBM area. Groundwater depth varies between 1334.34 and 1465.03 mamsl.

4.9.8 Groundwater Quality

Groundwater quality conditions within the proposed DBM mine area were obtained by means of different investigations and studies.

For the purpose of this study, the results were compared to the SANS 241 Drinking Water Standard. Constituents that exceeded the compliance objective were highlighted in red.

4.9.8.1 MSA Groundwater Study Risk Assessment (January 2011)

Groundwater samples from eight (8) borehole positions across the study area were taken for analysis. As indicated in **Table 4-2** most of the constituents were in compliance with the Drinking Water Standards compliance objective, except for nitrate which could have been a

result of either the agricultural activities (fertilizer contains nitrate) and/or the mining related activities (explosives that get used within the mining industry contains nitrate).

Table 4-2: MSA groundwater quality analysis results

BOREHOLE SAMPLE		SAMPLE LOCATION		SAMPLE DESCRIPTION	BOREHOLE WATER LEVEL (MBGL)	BOREHOLE DEPTH (MBGL)
Sample 1	WG/DBM/001	28.175861°S	26.904306°E	Sample taken from a borehole at a homestead.	-	-
Sample 2	WG/DBM/002	28.162111°S	26.890250°E	Sample taken from a borehole nearby a coring rig in the centre of a maize field.	-	-
Sample 3	WG/DBM/003	28.158556°S	26.893417°E	Sample taken from a borehole nearby a coring rig in the centre of a maize field.	6.2	29.4
Sample 4	WG/DBM/004	28.161278°S	26.866528°E	Sample taken from a borehole in a maize field	2.6	53.6
Sample 5	WG/DBM/005	28.185083°S	26.859500°E	Sample taken from a borehole in a maize field.	Borehole closed	Borehole closed
Sample 6	WG/DBM/006	28.167306°S	26.858694°E	Sample taken from a borehole at a homestead.	-	-
Sample 7	WG/DBM/007	28.169250°S	26.857361°E	Sample taken from a borehole in a maize field.	Borehole closed	Borehole closed
Sample 8	WG/DBM/008	28.174972°S	26.865333°E	Sample taken from a borehole at a homestead.	-	-

4.9.9 Tailing Geochemical Characterisation

4.9.9.1 Summary of geochemical results

- Pyrite (FeS2) is present as minor mineral in the tailings. Pyrite will be the major contributor to the products of acid-mine drainage in the tailings. Carbonate minerals responsible for buffering are absent in the tailings,
- The tailings sample will have a definite potential to produce acid drainage over the long term;
- Various metals were also found in the tailings water in elevated concentrations which exceeded the SANS 241 drinking water standard. These elevated metals include Al, As, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb and Sb. These metals are likely to be associated with the tailings material and could therefore impact on surface water and groundwater resources. The constituents SO4, EC and NH3 were also found in levels exceeding the SANS 241 drinking water standard;
- The total cyanide level exceeds the screening level SSV1 for Human Health and water resource protection and therefore poses a potential risk to the groundwater.

4.10 Air Quality

The air quality description was undertaken by Kijani Green Energy as part of the detailed Air Quality Assessment (Appendix D-6).

4.10.1 Wind

The prevailing winds are from the north, meaning that most dispersion from the dump and the mine will be away from the settlements of Virginia and Meloding, and out over the farmland to the south.

4.10.2 Precipitation

The site is on the Free State Highveld, at an altitude of approximately 1350 m above sea level. It is in South Africa's summer rainfall region but is rather dry, with an annual average rainfall of 561 mm per year. Rain peaks mid- season, in January, while the winter months are characterised by a long, dry period.

Even the addition of a small amount of moisture can have a dramatic effect on the reduction of potential dust emissions. Similarly, a long spell without rain will necessitate intervention

in the form of dust control measures in order to manage impacts on the surrounding environment. These will be particularly necessary during the months from April to September.

4.10.3 Temperature

The warmest period is December / January, when maximum temperatures average close to 30 degrees centigrade while June is the coldest with daytime temperatures averaging 17.4 degrees and overnight temperatures frequently dropping below freezing. The winter period is also very dry with little or no rainfall and evening relative humidity dropping below the 40% mark.

4.10.4 Summary

The proposed mine is situated in a high altitude region characterized by summer rains but where the winters are cool, dry and windy, resulting in conditions ideal for the desiccation of the environment and the wind entrainment of any loose material.

4.10.5 Results

Dust fallout results are indicated in Figure 4-4.

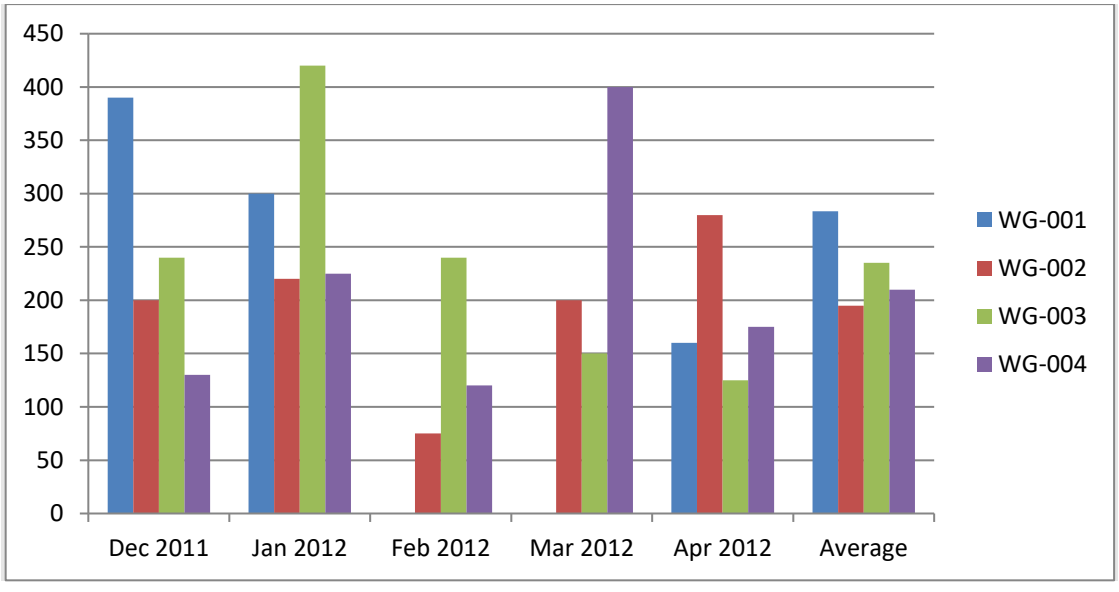


Figure 4-4: Dust fallout results for a four bucket network centred around the proposed Wits Gold DBM mine site south of Virginia, Free State, South Africa Figure (mg/m^2/day)

The results from the dust monitoring show an environment experiencing dustfall that lies between the slight (250mg/m^2/day) and moderate (500mg/m^2/day).

4.11 Radiation

The radiation description was undertaken by African Radiation Consultants as part of the detailed Radiological Impact Assessment (Appendix D-7).

The legal limit in South Africa for material to be classified as radioactive is 0.5 Bq.g-1 (nuclide specific). Naturally occurring radionuclides such as uranium, thorium, and radium are associated with the gold bearing reefs of the Free State. These naturally occurring radionuclides are expected to be present in all ore and will be carried through to the mineral processing residues generated through the Wits Gold DBM Project. The project thus has the potential to generate materials and residues that contain naturally occurring radionuclides, generally referred to as Naturally Occurring Radioactive Materials (NORM) (IAEA, 2007).

Baseline gamma and dose rate surveys as well as full spectrum analysis of environmental media at the proposed site are in progress. The baseline survey includes a terrestrial gamma survey as well as full spectrum analysis of groundwater, surface water, soil, stream sediments, and agricultural crops collected in the areas surrounding the proposed site. Results of this baseline survey will serve as point of departure for future monitoring of environmental media at the site and will further inform the development of radiation management procedures at the site. A summary of the available results are presented in Section 5.3 for ease of reference.

Note that at the time of writing this report, results for some of the environmental samples submitted for full spectrum analysis were not available yet.

4.11.1 Baseline of Radioactivity in the Environment

4.11.1.1 Baseline Nuclide Concentrations in Soil

Soil samples were collected at ten locations in the footprint area of the Wits Gold DBM Project. The samples were collected at these locations to determine the baseline activity concentrations in surface soil, where radioactive dust originating from the mining and mineral processing activities, when operational, may be deposited. The measurements will then serve as a baseline to which future monitoring measurements of soil can be compared.

Ten soil samples were collected. The samples identified as Soil B8 and Soil B9 were small in volume and as they are located in the same general area, were combined to have a sample that is large enough to be analysed. The eight other soil samples plus the one composite sample (9 in total) were sent to the Nuclear Energy Corporation of South Africa (NECSA) RadioAnalysis laboratory for full spectrum analysis.

The analytical results for the nine soil samples are summarised in Table 4-4.

4.11.2 Baseline Radionuclide Concentrations in Groundwater and Surface Water

Samples of groundwater were collected from existing production boreholes used by farmers currently living in the area, as well as monitoring boreholes located to the north of the proposed site.

Samples of groundwater collected from locations close to one another were combined to produce a total of six composite groundwater samples that were submitted to the NECSA RadioAnalysis laboratory for analysis. The samples combined and the numbers of the composite samples submitted for analysis is presented in Table 4-3.

Table 4-3: Groundwater samples included in composites for analysis

COMPOSITE SAMPLE NUMBER	GROUNDWATER SAMPLES INCLUDED IN COMPOSITE
ARC-GW-1	Groundwater 6
ARC-GW-2	Groundwater 8, 9, 10, and 11
ARC-GW-3	Groundwater 13
ARC-GW-4	Groundwater 3 and 4
ARC-GW-5	Groundwater 2 and 7
ARC-GW-6	Groundwater 5 and 12

Table 4-4: Baseline radionuclide concentrations measured in soil samples (Ra-12556 dated 26 April 2012)

Radionuclide	SOIL 1	SOIL 2	SOIL 3	SOIL 4	SOIL 5	SOIL 6	SOIL 7	SOIL 8/9 COMPOSITE	SOIL 10
	BQ.KG-1								
U-238	37.8	21.1	23.8	22.2	20.9	21.4	23	20.9	21
U-234	38.1	21.3	24	22.4	21	21.5	23.2	21	21.2
Ra-226	29	20.7	<MDA	19.2	17.5	18	32	17.8	20
Pb-210	26.1	<MDA	<MDA	21.6	<MDA	15	23	26.4	15
U-235	1.74	0.972	1.1	1.02	0.961	0.983	1.06	0.961	0.966
Th-232	36.1	22.4	23.4	23.7	21.2	21.6	23.5	21.2	19.5
Ra-228	44.9	22.9	<MDA	15.9	19.7	23.6	18.2	14.2	17.1
Th-228	29.2	28	<MDA	27.9	19.2	21.3	27.4	20	25.9
K-40	911	877	442	496	574	920	787	824	748

Gross Alpha	555	343	346	351	304	351	412	309	327
Gross Beta	37.8	21.1	23.8	22.2	20.9	21.4	23	20.9	21

Minimum Detectable Activity Concentration (MDA) for Pb-210 in Soil 2 is reported as 20 Bq.kg^{-1} and 19 Bq.kg^{-1} and 20 Bq.kg^{-1} for Soil 3 and Soil 5 respectively. MDA for Ra-226 in Soil 3 is 9.6 Bq.kg^{-1} and for Ra-228 and Th-228 in the same sample 14 and 9.3 Bq.kg^{-1} respectively.

Ground water samples 1 and 14 were excluded from the samples submitted for analysis due to constraints on the budget for radiological analysis and because these two samples were identified as the least likely to present information that are not already provided by one of the other composite samples. Results of the analysis is summarised in Table 4-5.

Table 4-5: Baseline radionuclide concentrations in groundwater (RA-XXYYZZ dated 26 April 2012)

Radionuclide	ARC-GW-1	ARC-GW-2	ARC-GW-3	ARC-GW-4	ARC-GW-5	ARC-GW-6
	mBq.L^{-1}					
U-238	81.9	63.8	77.9	44	49.6	94.3
U-234	256	207	224	171	92.1	308
Ra-226	43.4	9.2	30.7	16	36.6	22.2
Pb-210	-1.7	7.96	3.1	1.9	2.6	-0.93
U-235	3.77	2.94	3.59	2.03	2.29	4.34
Th-232	-1	1.6	4.04	1.9	1.7	0.78
Ra-228	1.3	-0.39	2.9	0.17	0.11	0.72
Th-228	7.47	1.46	3.6	1.3	2.68	0.95
Gross alpha	8.4	1.45	7.92	2.66	0.44	5.22
Gross beta	1.7	<MDA	9.73	3.1	-1	2

Surface water in the project area are mostly small streams and standing water in small isolated pools that only contain water following sufficient rainfall events. Surface water samples were collected at three locations near the proposed site, which were identified as locations both above and below the potential sphere of influence of current and future mining activities.

The first sampling location is on the Merriespruit below a mission school and approximately 50m upstream of a farm boundary fence. The Merriespruit is located east of the proposed site and flows in a northerly direction. The surface water sample collected here is therefore representative of water quality downstream of the DBM Project. The second sample was collected from a standing pool of water in the Merriespruit immediately upstream of a farm access road and represents water quality upstream of the proposed site. The last surface water sample was collected in a small stock-watering dam in an un-named stream that passes to the south of the project area. There is no visible flow in this stream and the water in the dam is standing water.

The samples of surface water were submitted to NECSA for Radioanalysis and the results are summarised in Table 4-6.

4.11.3 Stream Sediment

Samples of sediment were collected from the same three locations where surface water were collected Results of full spectrum radioanalysis performed on the sediment samples are summarised in

Table 4-7.

Table 4-6: Baseline radionuclide concentrations in surface water (RA-XXYYZZ dated 26 April 2012)

Radionuclide	Surface water-1	Surface water-2	Surface water-3
	mBq.L^{-1}		
U-238	84.2	85.2	110
U-234	172	162	175
Ra-226	6.5	32	30.9
Pb-210	6.2	1.2	2.7
U-235	3.88	3.92	5.07
Th-232	2	5.7	4.07
Ra-228	-4.2	1.1	-4.4
Th-228	1.61	5.2	2.4
Gross alpha	1.7	9.47	4.7
Gross beta	-2.7	5.41	-1.4

4.11.4 Baseline Radionuclide Concentrations in Vegetation

As indicated earlier, the project area is located on farmland used for the production of crops including maize and wheat. A composite sample, made up of several samples of different crops collected over the project area, was submitted for full spectrum radioanalysis. The results of this analysis will serve as a baseline to which future samples of vegetation, collected as part of a monitoring programme, can be compared. The radioanalytical results for the composite grass sample are summarised in Table 4-8.

Table 4-7: Baseline radionuclide concentrations in stream sediment (RA-12555 dated 22 May 2012)

Radionuclide	SEDIMENT-1	SEDIMENT-2	SEDIMENT-3
	BQ.KG^{-1}		
U-238	25.6	30.2	50.3
U-234	25.8	30.5	37
Ra-226	21	22	26.4
Pb-210	<MDA	<MDA	83.4
U-235	1.18	1.39	2.31
Th-232	23.4	24.1	45
Ra-228	41.4	22.5	42.4
Th-228	33.1	28	41.7
Gross alpha	643	772	1430
Gross beta	461	510	656

Minimum Detectable Activity Concentration (MDA) for Pb-210 in Sediment-1 and 2 are 89 Bq.kg^{-1} and 87 Bq.kg^{-1} respectively.

Table 4-8: Baseline radionuclide concentrations in composite crop samples (RA-12557)

RADIONUCLIDE	BQ.KG-1 (FRESH WEIGHT)
U-238	1.02
U-234	1.02
Ra-226	2.25
Pb-210	7.02
Po-210	0.0468
U-235	0.718
Th-232	2.94
Ra-228	1.07
Th-228	1.02

4.11.5 Radioactivity associated with the Wits Gold DBM Project

4.11.5.1 General

The radiological conditions associated with the Wits Gold DBM Project relate primarily to the minerals proposed for extraction and processing at the site and therefore include the ore as well as the mining and mineral processing residue (tailings) materials. Radiological release rates specific to these source materials are of importance to quantify the release of radioactivity into the environment. These release rates provides input into the environmental pathway modelling, notably the atmospheric, surface water and groundwater pathways.

4.11.6 Ore

Samples of exploration drill cores representative of three of the most prominent gold bearing reefs that will be mined as part of the Wits Gold DBM Project was submitted to the Necsa

RadioAnalysis laboratory for analysis. Multiple drill core samples were supplied for each reef formations, characterised are the Leader, Beatrix and Kalkoenkrans reefs.

The radioanalytical data presented in
Table 4-9 is considered representative of the gold bearing ore processed and handled at the Wits Gold DBM Project.

Table 4-9: Radionuclide content of composite ore samples (Ra-12554 dated Table26 April 2012)

Radionuclide	Leader Reef		Kalkoenkrans Reef		Beatrix Reef	
	Sample Activity	MDA	Sample Activity	MDA	Sample Activity	MDA
	Bq.kg^{-1}					
U-238	58 400	160	4 680	33	2 280	30
U-234	58 900	160	4 720	33	2 300	31
Ra-226	34 000	180	2 630	66	1 850	54
Pb-210	44 000	2 800	3 940	720	2 570	750
U-235	2 690	7.3	215	1.5	105	1.4
Th-232	1 330	6	221	1.4	69.4	1.3
Ra-228	1 140	370	245	94	56	73
Th-228	1 250	180	177	56	56.9	50
Gross α	466 000	6 000	33 400	2 700	18 300	2 600
Gross ß	176 000	110	13 400	330	11 100	260

4.11.7 Tailings

Since the Wits Gold DBM Project has not yet commenced, there is no mineral processing plant tailings present on site from which samples could be collected for radiological characterisation. Wits Gold therefore arranged that a sample of residue material from the laboratory scale testing of the mineral extraction process proposed for the project be supplied for analysis. According to Wits Gold, the residue is produced from a representative sample of the gold bearing ore that was prepared (crushed and milled) and extracted (cyanide leached and adsorbed with carbon) similar to the process that is planned for the Wits Gold DBM processing plant. Results of the full spectrum radiological analysis performed on this sample is presented in

Table 4-10.

Table 4-10: Radionuclide content of a tailings sample (Ra-12628 dated 26 April 2012)

Radionuclide	Sample Activity	MDA
	Bq.kg^{-1}	
U-238	1 160	0.87
U-234	1 170	0.88
Ra-226	1 140	27
Pb-210	1 390	140
U-235	53.3	0.04
Th-232	66.9	11
Ra-228	57.3	37
Th-228	53.1	24
Gross α	11 600	1 800
Gross β	4 490	230

4.11.8 Primary and Secondary sources associated with Wits Gold DBM Project

Some of the primary sources of radiation exposure are expected to change during the life cycle of the Wits Gold DBM Project. The assessment context (van Blerk, 2012a) made distinction between a pre-operational, operational, and post operational period. The nature of the Wits Gold DBM Project is such that some of the sources are present during the pre-operational (construction) period, while others will remain sources long after closure of the operations. One can expect the radiological impact to vary accordingly. The highest number of identified sources is associated with the operational period and will therefore be the primary importance during the definition and justification of the exposure conditions.

These primary sources include:

- Tailings Storage Facility (TSF);
- Waste rock dump;
- Return water dam;
- Ventilation Shaft;
- Metallurgical Plants; and
- Stormwater Management Facilities.

Secondary sources induced by natural processes refer to the release and distribution of radioactivity through the environmental pathways and the subsequent built-up of activity in the associated environmental compartments (e.g. surface soils, surface water bodies and sediments) with time. The development of these secondary sources induced by natural processes is thus as an extension of the environmental pathways and will be addressed in the assessment as such.

Secondary sources induced by operational processes refer to the release and distribution of radioactivity into the environment as part of the operational activities, such as material handling and transport, spillages from pipelines, and controlled or uncontrolled releases to the environment.

4.11.9 Pathways

The most significant pathways through which members of the public may be exposed to radiation at mining and mineral processing operations may be generalised as follows (IAEA, 2002a):

- Atmospheric pathways that can give rise to doses due to inhalation of airborne gases (e.g. radon and its progeny) and airborne radioactive particles;
- Atmospheric and associated terrestrial pathways that can give rise to doses resulting from ingestion of contaminated soil and foodstuff and external radiation; and
- Aquatic pathways that can give rise to doses from the ingestion of contaminated water, foods produced using contaminated irrigation water, fish, and other aquatic biota, food derived from animals drinking contaminated water, and from external radiation.

Given the potential sources of radiation exposure the pathways of concern are the atmospheric and groundwater pathways, and to a lesser extent the surface water pathway.

4.12 Heritage Impact Assessment

The historical and cultural description was undertaken by Archaetnos cc as part of the detailed Heritage Impact Assessment (Appendix D-8).

Two sites were identified in and very close to the surveyed area (**Figure 4-8**). No other archaeological, historical or cultural sites, structures or objects of any significance were identified.

Farmers did however indicate that there are grave yards in the wider mining area. As long as there is no impact (direct or indirect) this would not be a problem. However should any impact arise in future, these will need to be addressed by a heritage expert.

The same is true of any other cultural sites that may in future be impacted on due to a change in mine plan or any other circumstances. It should then immediately be evaluated and assessed by a heritage expert.

4.12.1 Site 1

This is a graveyard consisting of approximately 40 graves. There probably are more as the dense grass cover made it very difficult to do an accurate count. Two types of grave dressing were identified being stone packet or cement borders. Some graves are marked with metal markers. The graves that do have headstones have cement or stone headstones (**Figure 4-5**).

Some surnames identified are Moenvana and Hlokahetse. Dates identified range between 1908 and 1978. Most of the graves does not have names or dates and are therefore classified as unknown.

GPS: 28°10.588'S
26°54.604'E

Figure 4-5: One of the graves at site no 1

Figure 4-6: More graves at site no 1. Note the dense vegetation

The development will have a direct impact on the site. The exact nature thereof is however not known and should be confirmed by the client. Due to the sensitivity of this issue, graves are always regarded as having a **high** cultural significance.

With graves it usually is best to incorporate them into the development plan for the site. Should this be possible, the graveyard should then be fenced off and kept intact. Access to any descendants should also be allowed. A management plan needs to be drafted and implemented and it should also be monitored once a year by a heritage expert.

Should the above not be possible the graves will have to be exhumed and the bodies reburied. This is a lengthy process including social consultation for 60 days in order to find families of the deceased and to obtain their permission.

In the case of graves older than 60 years and those with an unknown date of death (as in this case) an archaeologist as well as an undertaker will have to be part of the team involved. For graves with a date of death of younger than 60 years, only an undertaker is involved.

4.12.2 Site 2

This is the remains of an old station. It consists of at least three buildings, most likely dating to the 1930's/ 40's and the ruins of more buildings (**Figure 4-7**).

GPS: 28°10.223'S
26°51.161'E

The site falls to the west and just outside of the footprint area of the proposed mining development. Therefore there will not be a direct impact on the site, but there will be a secondary one. The buildings are regarded as having a **medium** cultural significance. It still is in a good condition, but is not very unique.

The buildings should remain intact and may even be reutilized. Any structural changes should be communicated with the Provincial Heritage Resources Agency (PHRA) of the Free State Province and a permit will be required to do so. The buildings should not be demolished.

Figure 4-7: Station buildings at site no. 2

Figure 4-8: Location of the sites indicated in the report

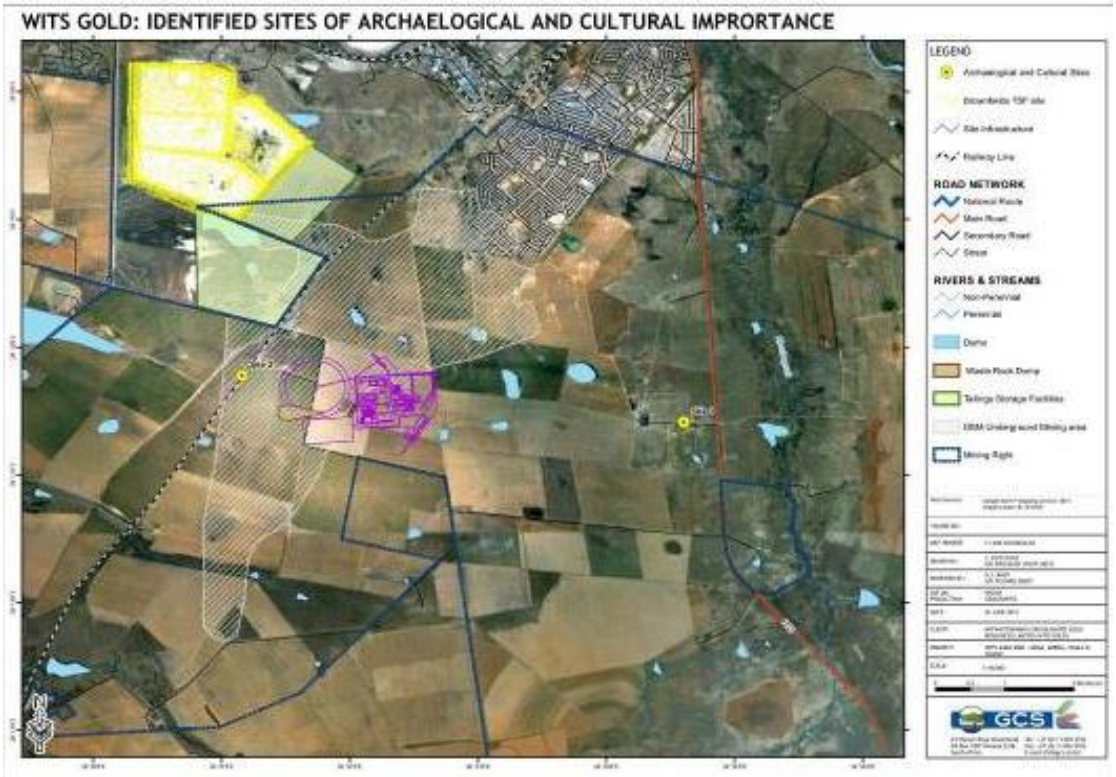


Figure 4-9: Identified sites of archaeogical and cultural importance

4.13 Traffic

The updated traffic description was undertaken by ITS Engineers as part of the detailed Traffic Impact Assessment (Appendix D-9).

The finding of this investigation can be summarised as follows:

- Access to the proposed site will be provided from the S239 road. The access will be controlled by stop signs on the side road allowing free flow on the S239 and it is expected to operate at an acceptable LOS once the proposed development is fully operational.
- As mentioned above the operational phase is anticipated to be the critical period in terms of additional trips generation. The trips generation prediction for that period is in order of ± 30 and 23 vehicle trips during the AM and PM . The additional trips to be generated will not pose a significant on the external road network.
- The interaction (turning movements) between public transport and privates vehicles might pose some safety hazard. It is therefore recommended that the following measures be adopted to mitigate the impact:
    - Provision of lighting at sufficient standards at the intersection of the S239 and the access to the mining area.
- In terms of public transport provision as well as pedestrian safety:
    - No on-street pick up / drop offs at the intersection of the S239 and the access to the development should be allowed (drop-offs / pickup should be done on site).

4.14 Socio-Economic

The section below details the socio-economic description that was undertaken by GCS (Pty) Ltd as part of the detailed Social Impact Assessment (Appendix D-10).

Conceptualising a proposal to develop a greenfields gold mine, the anticipated social and environmental impacts are generally broad and not limited to one specific area or town. The proposed project falls within the Free State Province, Lejweleputswa District Municipality (DM), Matjhabeng Local Municipality (LM). A portion of the site falls within the Masilonyana LM, also within the district of Lejweleputswa.

In order to assess the potential impact of the proposed project, it is important to consider the particular Province, DMs, LMs as well as the nearby towns in a holistic way.

The baseline study will therefore include a brief overview of the socio-economic factors in the Free State Province and the Lejweleputswa DM with a thorough investigation into Matjhabeng and Masilonyana LMs as well as the towns of Virginia and Theunissen.

4.14.1 Regional context

The Free State Province represents 10.6% of the total land area of South Africa (Census 2001). The province covers an area of 129 464 km^2, and had a population of 2.7 million in 2001. The Free State Province is divided into 5 DMs. These are again subdivided into 20 LMs.

District Municipalities

- Fezile Dabi DM in the north;
- Thabo Mofutsanyane DM in the east;
- Motheo DM in the south-east;
- Xhariep DM in the south; and
- **Lejweleputswa DM** in the north-west.

The area of jurisdiction of Lejweleputswa DM is situated in the north western part of the Free State and borders the North West Province to the north and the Northern Cape Province to the west. The Lejweleputswa DM is divided into the following LM:

Local Municipalities

- **Masilonyana LM;**
- Tokologo LM;
- Tswelopele LM;
- Nala LM; and
- **Matjhabeng LM.**

The Matjhabeng LM, previously known as the Free State Goldfields, consists of the following towns:

Matjhabeng LM

- Welkom/Thabong/Bronville;
- Allanridge/Nyakallong;
- Odendaalsrus/Kutlwanong;
- Hennenman/Phomolong;
- Ventersburg/Mmamahabane; and
- **Virginia/Meloding.**

The Masilonyana LM consists of the following towns:

Masilonyana LM

- **Theunissen;**
- Masilo;
- Brandfort;
- Majwemasweu;
- Soutpan;
- Ikgomotseng;
- Verkeerdevlei;
- Tshepong;
- Winburg; and
- Makeleketla.

4.14.2 Local context

4.14.2.1 Demographic profile

Population and household profile

According to Statistics South Africa Census Data 2001 and the Community Survey 2007 (Stats SA, 2001, CS, 2007) the population size (persons) for the Matjhabeng LM decreased by 0.77% even though households grew by 9.42% (CS, 2007). The Masilonyana LM population size (persons) increased by 24.35%, whilst the household sizes increased by 59.66%.

Population group

Statistics SA data (2001) indicates that the Matjhabeng LM population are composed of mostly Black African persons (89.72%) followed by 8.66% White persons. Both females and males are

evenly represented within the municipality, with slightly more Indian or Asian men (61.97%) than women (38.03%).

The Masilonyana LM population in comparison, are composed of 91.99% Black African persons, followed by 6.71% White persons. Opposite to the Matjhabeng LM, females are slightly outnumbered by males within the Masilonyana LM. This indicates that the traditional migrant nature of mining has dissipated in the area and that families are more integrated.

Language

Closely linked with population group demographics, is language. The majority of the Matjhabeng LM (63.54%) population speak Sesotho. Afrikaans is spoken by 11.53% of the population, with a very small percentage of 1.80% of the population speaking English. Within the Masilonyana LM, a similar pattern is noted, with 67.11% Sesotho speaking persons. Afrikaans (7.99%) and English (0.34%) is spoken less often.

Age

It is important to assess the age distribution of persons in order to determine both the current and future needs of an area. Age is an important indicator as it relates to education, skills and dependency. A young population may require an improved educational system, whereas an older society may need an accented focus on healthcare. The Matjhabeng LM population has a large adolescent population, steadily levelling off from 20 years of age. With 28.32% of the population being younger than 15 years of age, indicating that they do not form part of the Economically Active Population (EAP) of the area. Within the Masilonyana LM, the population younger than 15 years of age represents 29.78% of the population.

A relatively large portion of the Matjhabeng LM population falls among the 35 to 39 year age band. These persons normally form part of the economically active group, and since they have more work experience, usually fall within the higher skilled and higher salary bracket. One can clearly note that the Masilonyana LM starts decreasing from the age of 20 years, leaving fewer economically active individuals.

Education

The largest percentage (17.70%) of the Matjhabeng LM population aged 20 years and older (at the time of the 2001 census) had achieved an education at the standard of Grade 12/Standard 10/Form 5/NTCIII. A large percentage (12.14%), however, did not receive any schooling. Only 5.58% of the population achieved an academic level higher than Grade 12. In

contrast, the largest percentage (18.56%) of the Masilonyana LM population aged 20 years and older (at the time of the 2001 census) had received no form of education. Only 12.12% had achieved an education at the standard of Grade 12/Standard 10/Form 5/NTCIII.

4.14.3 Economic profile

This section provides a delineation of the study area and a brief economic status quo pertaining to:

- Employment and labour profile; and
- Individual income level.

Employment and labour profile

The employment status of the population has a variety of important implications. Economically active and employed persons can contribute to the overall welfare of a specific community by paying their taxes, looking after the youth and aged and by stimulating the economy. However, should a community have a large number of economically inactive and / or unemployed persons, the burden on the EAP of that community are amplified.

Barker (2003) defines unemployment as a situation where members of the labour force are without work (not employed) and are currently available for work, and are seeking work.

According to the definition of unemployment, as used by Statistics SA, the unemployed are economically active people who:

- Do not currently work;
- Want to work and are available to start work; and
- Have taken active steps to look for work or to start some form of self-employment.

4.14.4 Services and infrastructure profile

Social service delivery centres on the provision of health, education and community development facilities and services. The concept of service delivery also comprises various elements such as affordability, quality, efficiency and access.

“Sustainable human settlements are settlements that work. They are settlements in which people live, in which they shop, seek entertainment, care for their children, and socialize and celebrate important holidays or events with their friends and neighbours. Sustainable human settlements are settlements in which people access social amenities such as healthcare clinics, libraries, schools, and so on. Sustainable human settlements are also

settlements in which people vote and express their opinions freely; in which they work and pay taxes; and in which all of these things are possible without putting undue stress on the community, the family, the individual, the economy, or the environment." (Shisaka Development Management Services 2004, as cited in Ekurhuleni Integrated Development Plan 2007-2011).

According to the National Population Unit, South Africa's priorities are to meet the basic needs of all South Africans (in terms of water, sanitation, health services, education, housing and infrastructure). This is in order to redress disparities in wealth and access to resources, to create employment, to stimulate and sustain economic growth and to improve the quality of life of all South Africans. In addition, South Africa has committed itself to the Millennium Development Goals, which amongst other objectives is also aimed at the eradication of poverty and the provision of basic services to all.

The Millennium Declaration, which was adopted by the United Nations member states in the year 2000, contains eight Millennium Development Goals (MDG). These goals range from poverty reduction, health, and gender equality to education and environmental sustainability. South Africa's progress and challenges will be assessed with respect to its sustainable development, by examining trends in socio-economic development and policy-making. Cross cutting issues that can be discussed in the context of South African settlements are:

- Poverty eradication;
- Changing unsustainable patterns of production and consumption;
- Health and sustainable development;
- Means of implementation;
- Gender equality; and
- Sustainable development in a globalising world.

This indicator therefore examines the level of service provision in the study area. Services assessed include sanitation, water, housing, refuse facilities and electrification. According to Abrahams and Goldblatt (1997), there are three priority services (water, sanitation and electricity) for the promotion of health, convenience and quality of life.

In addition, the Free State Growth and Development Strategy for 2005 / 2014 identified specific development priorities, based on the social and economic development challenges of the province. The Free State Province has identified the following as primary development objectives:

Enhancing economic development and job creation

- Local economic development;
- Tourism growth; and
- Land reform.

Providing and facilitating sustainable infrastructure

- Infrastructure;
- Housing;
- Sport and recreation;
- Cemeteries; and
- Community facilities.

Investing in the development of people

- Education;
- Health and social welfare;
- Youth development; and
- Cross cutting issues: elderly / disabled / gender equity.

Ensure a safe and secure environment

- Safety and security.

Good / co-operative governance with sustainable use of resources and the environment

Housing

Housing is one of the basic human needs that have a profound impact on the health, welfare, social attitudes and economic productivity of the individual. It is also one of the best indications of a person's standard of living and of his or her place in society. In achieving the MDG, South African Government Policy is to ensure that its citizens live within good housing conditions. In order to achieve this goal, the government wants to eliminate all informal dwellings and bucket type toilets, and to ensure that all citizens have access to electricity for lighting, and access to clean, safe water within a reasonable distance (Statistics SA, 2007).

The Matjhabeng LM has been steadily formalising informal settlements within its municipal area. Persons residing within informal settlements have decreased by 18% between 2001 and 2007.

In terms of housing provision, the Matjhabeng LM has launched Operation Hlasela, which is focused on providing decent housing conditions in areas such as Meloding and Phomolong. Old two-roomed houses are being demolished and replaced with decent four-roomed houses. The Provincial Department of Human Settlements has committed subsidies to the approximate value of R 12.8 million towards this project. An added benefit of this project is that is has created local employment opportunities for the local residents (www.matjhabeng.co.za).

Land tenure describes the way in which people own land. Tenure reform aims to bring all people occupying land under one system of landholding. This system must provide the same rights for different forms of tenure such as private ownership and communal tenure. Land tenure is a contentious issue in the rural areas and a general lack of available data contributes to the municipality's inability to addressing ownership.

Community Survey 2007 results show that the percentage of households in the Matjhabeng LM who owned, whether fully paid off or had not yet paid off their dwellings, increased from 51.40% in 2001 to 60.30% in 2007.

The percentage of households who rented dwellings increased slightly from 21.5% in 2001 to 22.4% in 2007.

The promotion of security of tenure through the Discount Benefit Scheme has been launched in the Matjhabeng LM, whereby ownership of properties is being transferred from the Matjhabeng LM to beneficiaries. This scheme transfers old housing stock, kept under the 99-year leasehold to individuals. The progress is as follows:

Thabong

- 133 title deeds have been issued; and
- 500 transfers are lodged with the Deeds Office.

Meloding

- 87 title deeds have been registered.

Nyakallong

- 50 title deeds have been registered.

In addition, the Matjhabeng LM has formalised the following informal settlements:

Meloding

- Three informal settlements were formalised resulting in the establishment of 346 erven.

Kutlwanong

- The informal settlement near Kutlwanong Stadium was formalized and 214 erven established.

Mmamahabane

- A total of 32 erven were established during the process of formalisation.

The formalisation process required that each individual be allocated with a proper pegged site to ensure adherence to the layout plan.

Energy use

According to the Masilonyana LM IDP (2011/12), the bulk electrical network of the municipality is well established, with Eskom providing services to all mines and towns in the municipality. The IDP further states that there is sufficient infrastructure to service the whole municipal area.

The bulk electrical network within the Matjhabeng LM is well established since Eskom is servicing all the mines and townships within the municipal area. However, aging electrical infrastructure where the Matjhabeng LM is the service provider has posed challenges. In addition the Matjhabeng LM Integrated Development Plan (IDP) for 2010/11 (IDP, 2010/11) reports that, a change in Eskom's cost recovery and subsidisation policy has made it very expensive to electrify the rural areas (including farms and farming communities). The National Government has set a target of 100% electrification of all areas by the end of 2014.

The use of electricity for heating, cooking and lighting has increased substantially between 2001 and 2007, with a growth of 19.6% for heating and cooking respectively.

Water and sanitation

Water infrastructure within the Matjhabeng LM consists mainly of Sedibeng Water reservoirs and pipelines. Water supply mainly focuses on the Goldfields region, supplying the mines with water from the Vaal River near Bothaville and to a lesser extent from the Sand River.

Matjhabeng LM supply water to all formal towns and townships in its area of jurisdiction. These areas comprise of residential, business and industrial users that are serviced.

Main reservoirs within the Matjhabeng LM are located east of Allanridge, in Welkom, as well as north and south of Virginia. Pump stations are situated east of Allanridge and at Virginia where there is also purification plant (IDP, 2010/11).

According to the Matjhabeng LM IDP (2010/11), the municipality has 11 purification plants and is finding it difficult to keep all the purification plants and networks in good operational standard that conforms to National Standards. It has been estimated that, after the completion of the municipality's current projects, a remaining backlog of approximately 9 000 households will still exist. The municipality intends to address this backlog over a five year timeframe.

The Masilonyana LM IDP (2011/12) indicates that the municipality's water infrastructure comprises of the reservoir and pipelines of Sedibeng Water that supply the municipal area and the mines with water from the Vaal River and to lesser extent with water from the Sand River. All towns in the municipality are dependent on the ground water extraction and most of the rural areas have been provided with water (an estimated 80% of farm communities have clean, running water).

Water services delivery is performed by a vast number of Water Services Authorities, Water Boards and Service Providers across the country. The Department of Water Affairs' Blue Drop Certification programme of 2011 verified the status of drinking water quality and management of supply systems by municipalities via a supply infrastructure network of 914 systems. The Blue Drop Certification programme verifies the level of management proficiency, water quality and risk management in the municipal water services business.

The Blue Drop Report for 2011 has been designed with the objective to provide the sector and its stakeholders with current, accurate, verified and relevant information on three different levels:

System specific

- Data and information pertaining to the performance of each supply system on municipal level.

Province specific

- Figures and information to highlight the strengths, weaknesses and progress for the collective of municipalities within the province.

National overview

- Collate and elevate the detailed findings on system level to that of a provincial overview, which can then be compared and inculcated as a national view of drinking water quality management performance; and
- Comparative analyses amongst the provincial performances are useful indicators and benchmarks for the various role players.

The Matjhabeng LM obtained an overall score of 79.91%, placing them fourth among Free State Province Municipalities. The closest water supply system to the proposed site is the Virginia Water Supply System, which achieved an overall status of 79.80%, slightly less than the municipal average. This gives them an "Excellent Drinking Water Quality Compliance".

The Masilonyana LM obtained an overall score of 6.49%, placing the fifteenth among Free State Province Municipalities. The closest water supply system the proposed site is the Theunissen Water Supply System, which achieved an overall status of 6.5%, resulting in a compliance warning.

Matjhabeng LM has incrementally increased the level of water supply and expanded household access to both a Reconstruction and Development Programme water standard and higher. Households with access to piped water inside their dwellings have increased by 15.4%, with household relying on water within an access point in their yard, simultaneously reducing by 14.1%. Households with access to piped water outside their yards declined significantly (18.4%).

Healthcare

HIV/AIDS in South Africa has increased rapidly over the past decade. The social and economic consequences of the disease are far reaching and affect every facet of life in South Africa. Despite South Africa creating a progressive and far-sighted policy and legislative environment for dealing with HIV/AIDS, the prevalence of HIV/AIDS continues to increase. This indicates

that policies and laws have not been adequately implemented and have not impacted significantly on the ground.

HIV/AIDS policies integrate the following principles:

Non discrimination

- No employee shall be dismissed on the ground of his/her HIV status;
- No hiring decision based on HIV assessment;
- Training within the workplace not influenced by HIV status; and
- Advancement or promotion not dependent on HIV status.

Confidentiality and disclosure

- No employee required to disclose his/her status; and
- Should the employee want to disclose his/her status voluntarily, it cannot be disclosed to others without the employee's written consent.

Benefits applied equally to all employees

- Medical assistance is provided to an employee in accordance with the rules of the health care delivery system to which the employee is contracted; and
- Pension funds and provident funds are applied equally to all employees.

Ill-health retirement

- When an employee is deemed medically incapacitated the employee is provided with an ill health retirement package; and
- If however, the employee wishes, he/she can submit a dissenting opinion from a independent registered medical practitioner.

Five broad economic impact channels are usually used to assess the impact of HIV/AIDS on the South African economy (Chamber of Mines of South Africa, 2003):

- A lower overall population and labour force which affects both the production potential of the economy and the expenditure side of the economy;
- The direct costs, which include increased contributions to medical benefit schemes, disability cover, etc;
- The indirect costs (e.g. Increased absenteeism, reduced productivity and impact on training);

- An increased level of government expenditure as a result of higher demand for public health and social services; and
- Private households will bear the brunt of home care costs of family members living and suffering from AIDS, the cost of funerals, and the care of orphans which will reduce household savings and spending in other areas.

Independent of the above models, the industry recognises that HIV/AIDS has the following effects on labour, and therefore, on the economy of the company (Chamber of Mines of South Africa, 2003):

- Productivity is being affected by the increasing illness of the employees necessitating absenteeism and increasing sick leave;
- Training and replacement of labour once the employee becomes medically incapacitated or dies is required and productivity is reduced; and
- Staff morale – loss of colleagues, increased workloads, perceived and actual discrimination, uncertainty about HIV/AIDS and the fear of infection will undermine morale and productivity.

Socio-economic development is about more than just economic growth, and should include the following as well:

- Longevity;
- Standard of living;
- Infant, child and maternal mortality; and
- Distribution of income.

Some socio-economic development consequences of HIV/AIDS are summarised below.

- Life expectancy;
- Infant mortality rates;
- Child mortality rates; and
- Crude death rate.

The effects of AIDS reverses hard-won socio-economic development gains and makes further development attempts that much more difficult as the HIV/AIDS hurdle will have to be surmounted in addition to the other pressing developmental problems.

The number of HIV positive persons living within the Free State Province has increased by 5.78% since 1996. The number of HIV related deaths has however dramatically increased, and in 2005 surpassed the amount of deaths accredited to other causes. This indicates that HIV/AIDS is a real concern within the Free State Province.

The Matjhabeng LM aims to provide quality care and effective services based on the World Health Organisations definition of Primary Health Care within the policy framework of the:

- Department of National Health;
- Provincial Health Department; and
- Matjhabeng Municipality.

Clinics in Matjhabeng Municipality

Virginia

- Virginia Clinic
- OR Tambo Clinic
- Rearabetswe Clinic
- Meloding Clinic
- Khothalang clinic

Services that are provided by the Matjhabeng LM include:

- Ante Natal Care;
- Post Natal Care;
- Immunisations;
- Integrated management of childhood illnesses;
- Family planning;
- Mental Health Care;
- Management of Chronic conditions e.g. asthma;
- Minor Ailments;
- Tuberculosis management;
- Counselling for voluntary HIV testing Sexually Transmitted Infections;
- HIV/AIDS Care;
- Anti Retroviral Treatment;
- Health information; and
- Referral system.

The Masilonyana LM has a high rate of HIV/AIDS infection, which the IDP (2011/12) attributes to migrant labour from the mines and high employment rates. The municipality has mobile clinics that operate in the rural areas, but challenges such as far distances to travel leading to a low frequency of visits as well as overcrowding have been highlighted.

Roads and transport

The Matjhabeng LM has a well established road and transportation infrastructure, however, the issue of maintenance is providing the municipality with safety and financial challenges. The public transport system mainly consists of privately owned taxis, but there are, however, a rail network that links towns such as Hennenman and Virginia with other provinces, such as the Gauteng-, KwaZulu Natal-, Eastern Cape- and Western Cape Province. The transport infrastructure, however, does not extend to local rail network or bus service operations within the municipality (IDP, 2010/11).

The road networking within the Masilonyana LM is well developed but the road conditions are deteriorating at an increasing rate, with very little maintenance taking place. The maintenance of all primary roads has been identified as an urgent priority for the next five years in order to facilitate the flow of traffic through the municipality and to support local economic development. Similarly, there is a need to maintain the tertiary road system as it forms a lifeline for rural communities in terms of health, education and emergency services.

Public safety

The current level of crime within the Matjhabeng LM has caused concern, with an increase in housebreaking and violence against women and children. Both the Matjhabeng and Masilonyana LM IDPs (2010/11 and 2011/12) have highlighted the following as some contributing factors:

- High unemployment rate and migration from rural to urban areas;
- Lack of resources within the SA Police Service (transport, manpower);
- Ineffective functioning of Neighbourhood Watch Organisations and Community Policing Forums;
- Lack of visible policing; and
- Lack of accessibility to police stations.

The IPD (2010/11) highlights that more facilities such as mobile police stations, available transport and accessible communication systems are required to improve crime prevention and emergency response.

The social change processes shown below are expected to take place as a result of this project.

Demographic processes	Economic processes	Geographic processes
• In-migration; • Presence of temporary workers; • Resettlement; and • Displacement / dispossession.	• Waged labour; and • Conversion and diversification of economy.	• Conversion and diversification of land use; • Enhanced transport and rural accessibility; and • Physical splintering.
Institutional and legal processes	**Emancipatory and empowerment processes**	**Socio-cultural processes**
• No impacts are expected.	• Capacity building.	• Social behaviour.

It is important to pause here and clarify that the actual impacts experienced at a given project site will depend on a variety of factors, that range between the baseline conditions, the public participation process, engagement and capacity building that has taken place, the type of mining methods and minerals mined, the role of politics, most notably in local municipalities and the other processes of social change either already under way (e.g. due to exploration activities), or which may develop during the life of the mine.

5 PUBLIC PARTICIPATION

Public Participation done for the DBM Project

Public Participation is a vital component in the environmental process. GCS has invited various stakeholders to register as Interested and Affected Parties (I&APs) in order to have the opportunity to submit their comments regarding the proposed project. This section of the report documents the process, which was followed with respect to consultation of I&APs and other stakeholders.

5.1 Purpose of the Public Participation Process

Public participation is an essential and legislative requirement for any MRA and related environmental authorization. The principles that demand communication with society at large are best embodied in the principles of the NEMA, South Africa's overarching environmental law. In addition, Section 24(5), Regulation 54-57 of GNR 543 under the NEMA, guides the Public Participation Process (PPP) that is required for an EIA process as per an application for Environmental Authorisation. However, as this EIA has been conducted in terms of the MPRDA, the requirements, as set out in the DMR Acceptance Letter (attached with the cover letter), as well as all legal requirements as defined in Chapter 2, Part 3, Section 49(1)F of the MPRDA will be considered. The above reference section of the MPRDA states that the EIA should *"describe the process of engagement of identified interested and affected persons, including their views and concerns"*.

Furthermore it is the general objectives of the Public Participation Process, during the EIA are to:

- Assist the I&APs with identifying issues of concern, and providing suggestions for enhanced benefits and alternatives;
- Contribute their local knowledge and experience to be incorporated into the Environmental Assessment; and
- Verify that their issues have been considered and included in the EMP.

The PPP aims furthermore to ensure that all relevant I&APs are consulted and involved. The process ensures that all stakeholders have an opportunity to raise their comments as part of an open and transparent process, which in turn ensures for a complete comprehensive environmental study.

The specific/detailed purpose of consultation and the engagement therefore is to:

- Introduce the proposed project (which was completed during the Scoping Phase);

- Explain the EIA and PPP to be undertaken;
- Determine and record public issues and concerns;
- Provide opportunities for public input and gathering of local knowledge;
- Inform a broad range of stakeholders about the project and the environmental process to be followed;
- Establish lines of communication between stakeholders and the project team;
- Identify all the significant issues in the project; and
- Identify possible mitigation measures or environmental management programmes to minimise and/or prevent environmental impacts, associated with the project.

Once the concerns of I&APs have been established, the EIA/EMP Report will aim to address these concerns.

In order to achieve the above, general and specific objectives, a range of measures, as defined in the Public Participation Guidelines referred to above, are employed. These include the measures as per the sections below.

5.2 Identifying I&APs

Land owners and property occupiers were identified during the initial consultation conducted by GCS. As the on-the ground understanding of affected stakeholders improves through interaction with various stakeholders and GCS, the database is continually updated to include additional stakeholders.

The detailed list of I&APs consulted thus far is provided in Appendix F-1.

5.3 Notification

Announcement of the initial opportunity to become involved and to participate in the Application for a Mining right was announced in March 2012 during the EIA Phase. The initiation of the PPP was advertised as follows:

- Distribution of a Background Information Document (BID) containing details of the proposed project, including a map of the project area, and a registration sheet (March 2012);
- An advertisement was placed in the Volksblad (Vista) Newspaper 8 March 2012; and
- Site notice boards were positioned at prominent localities around the site on 5-9 March 2012.

Stakeholders have further been notified about the commencement of the EIA phase, explaining the process to be followed and opportunity of engagement. Announcement of the second public meeting (18 July 2012) and availability of the draft EIA/EMP for public review and comment period of 30 days (Wednesday, 4 July 2012 to Friday, 3 August 2012) were advertised as follows:

- Email and bulk sms sent to all I&APs on 4 July 2012; and
- An advertisement was placed in the Volksblad (Vista) Newspaper 29 June 2012.

Once the EIA/EMP Report has been completed (including the various specialist studies) and submitted to the DMR, I&APs will be afforded an opportunity to review and comment on the findings thereof.

5.3.1 Background Information Document

A BID was distributed to identified stakeholders. The BID was compiled in English and Afrikaans and included details of the proposed project, the EIA and the MPRDA process. It included relevant contact details and a comment/registration sheet for I&APs to complete. I&APs were invited to register and send responses by fax, telephone or e-mail to GCS.

5.3.2 Site Notice

Four site notices were erected at prominent locations (as pointed out by affected stakeholders) around the site on 5-9 March 2012 (**Table 5-1** and Figure 5-1). These notices were prepared in accordance to the guideline regulations and contained details of the proposed project and the EIA phase including requirements of the MPRDA. It clearly depicted the contact details of the project team.

Table 5-1: Location of site notices (5-9 March 2012)

Site	Coordinates	
	South	East
Virginia Hardware Store	-28.10408	026.86346
Virginia SPAR Super Market	-28.10660	026.86027
Rail-crossing at entrance to Mining Right area	-28.16394	026.85712
Meloding Engen Garage	-28.13554	026.89119

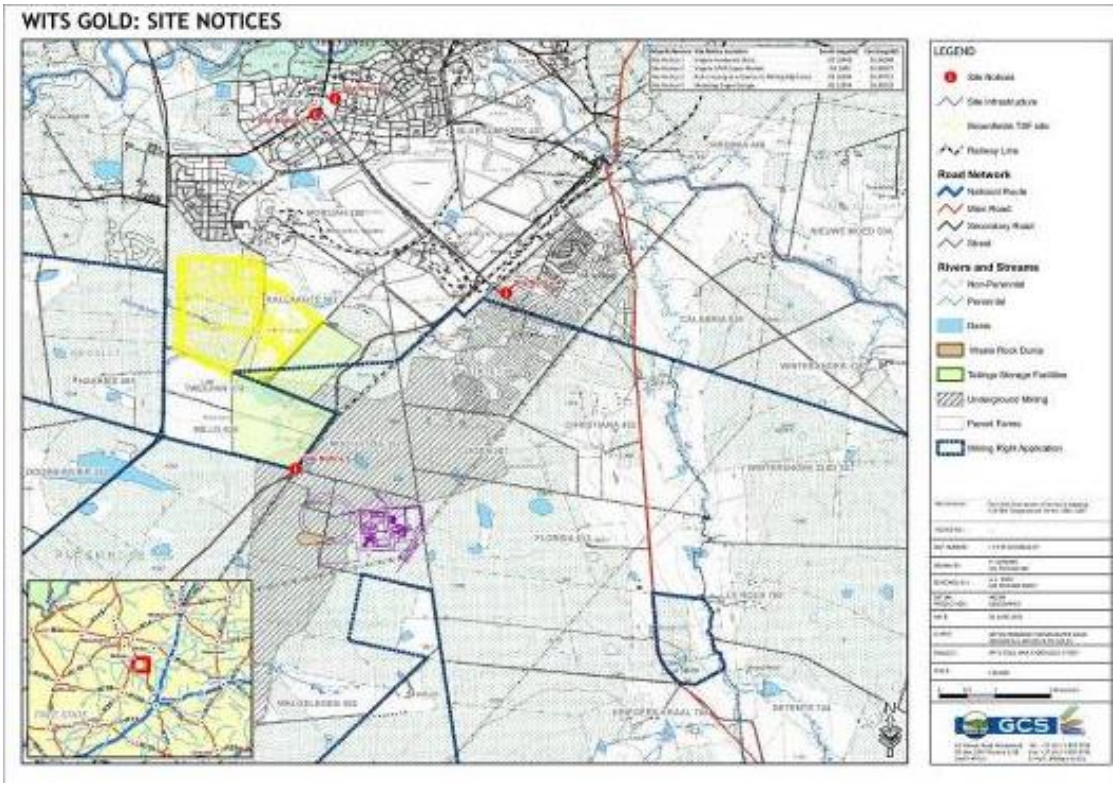


Figure 5-1: Site Notice Locations

5.3.3 Advertisement

Advertisements were placed in Volksblad (Vista) Newspaper on 8 March 2012 and 29 June 2012. The advert, which appeared in the main body of the newspaper, aimed to inform the general public, as well as any other affected parties about the MRA, public meeting (27 March 2012) and availability of the Scoping Report for public comment and review. It not only included a brief description of the project, but also the legal requirements and an invitation

to any I&AP to register as such with GCS. An authority reference number was provided. An additional advert was placed in the Vista newspaper detailing the location and comment period of the draft EIA for public review and comment as well as notification of the second public meeting (18 July 2012).

5.4 Stakeholder Engagement

5.4.1 Consultation Meeting

Two consultation meetings have been held with some of the key stakeholders. At the first meeting (27 March 2012) the background to the project, as well as the environmental approach, was explained. The attendees were provided with an opportunity to raise issues, concerns, questions and their views. All of these were documented during the discussion session. Issues raised at these meetings have been included in the minutes of the meeting which is included in Appendix F-5.

The second meeting was held on 18 July 2012 to discuss the finding of the EIA and provide the I&APs another opportunity to raise issues, concerns, questions and their views. All of these were documented during the discussion session. Issues raised at these meetings have been included in the minutes of the meeting which is included in Appendix F-5.

5.4.2 Issues Raised during the Scoping Phase

This section of the report documents the concerns, comments, viewpoints and questions (collectively referred to as 'issues') raised by the I&APs during the consultation process. The following opportunities were available during the EIA Phase for contribution from the I&APs:

- Completing and returning the registration/comment sheets;
- Providing comment telephonically or by email/fax to GCS; and
- Attending stakeholder meetings.

All concerns and issues received thus during the EIA phase were captured and documented in the Issues and Response Register (IRR) in such a way as to include:

- Contact details of all registered I&APs; and
- Issues raised linked to the related I&AP.

The IRR was continually be updated to include additional I&AP contributions that may be received as the application process proceeds. Further issues and concerns will be captured as mentioned above during additional public consultation.

5.5 EIA and EMP Report

The draft EIA/EMP Report was made available for public review on 4 July 2012 until 3 August 2012. One printed copy of the report was made available to I&APs by means of placing the document together with a CD containing the information in the Virginia Local Library. Electronic copies will be placed on the GCS website (www.gcs-sa.biz) as well as be provided to I&APs in electronic format (CD) upon request.

The final EIA/EMP Report was made available for public review and comment on 7 August 2012 until 17 September 2012 whereby they will be afforded the opportunity to submit their comments directly to the DMR as well as to GCS. One printed copy of the report was made available to I&APs by means of placing the document together with a CD containing the information in the Virginia Local Library. Electronic copies was placed on the GCS website (www.gcs-sa.biz.

SOFS DBM Project Extension Public Participation Process t

The main objectives of the PPP are to:

- Identify key stakeholders (i.e., NGOs, municipalities, government departments, traditional authorities) and IAPs (i.e., surrounding businesses, residents, community members, landowners, interested members of the public);
- Inform key stakeholders and IAPs about the project, the assessment process and their right to be involved;
- Establish lines of communication between IAPs and the project team to deal with potentially contentious issues;
- Provide ample opportunity to all parties to exchange information and express their views and raise issues and concerns relating to the proposed project; and
- Obtain contributions of IAPs and ensure that all issues, concerns and queries raised are fully documented and considered as part of the assessment process.
-

5.6 Project Announcement

The first step of this phase follows global best practice by informing I&APs (Appendix F-1) of the proposed project and inviting them to register as interested and affected parties.

The following tasks were undertaken as part of the first phase of the PPP:

- **Background Information Document (BID):**
  A BID was compiled which will provide:

- a summary of the proposed project;
- information about the application process;
- the public review arrangements of the Draft Amendment Report.

The BID, available in English and Sesotho was circulated to all identified IAPs as per the IAP database. Anyone else who requested a copy, was sent via email. Circulation of the BID took place electronically and copies was printed and handed out at the stakeholder meeting to be held. See Appendix F-2 for the BID.

- **Advertisements:**

  Advertisements (in English and in Sesotho) as per regulation 41(2)(c) and 41(3) of the EIA Regulations was placed in Vista, Masilonyane News and the Free State Sun local newspapers, informing the public of the project and the availability of the Draft Amendment Report for public review for 30 days. (Appendix F-3)

- **Site Notices:**

  Site Notices as per regulation

  41(2)(a), 41(3) and (4) of the EIA Regulations will be placed at pertinent locations around the site. Notices was available in English and Sesotho. (Appendix F-4)

- **Written Notice**

  Written notice as per regulation 41(2)(b) of the EIA Regulations, in the form of emails was sent to all landowners, residents, municipal councillors, organs of state and any other party required by the CA.

- **Placement of the Draft Amendment Report for review:**

  The Draft Amendment Report was made available to all IAPs, either electronically or in hardcopy at the Virginia Public Library and the Meloding Public Library. The Draft Amendment Report was also available electronically on GCS's website and soft copies were made available on request.

- **Stakeholder Meeting/s:**

  In order to present a summary of the content of the Draft Amendment Report, the intention of the applicant and to receive oral comments from stakeholders, two meetings will be held:

  - A community meeting was held on the 16th of July 2024 at 16h30 at the Meloding Multipurpose Centre.
  - For those who will not be able to attend a physical meeting, an electronic platform meeting was held over MS Teams on the 16th of July 2024 at 10h00.

- **Comment and Response Report (CRR):**

  A CRR was compiled, recording in writing all questions, issues and concerns received from stakeholders during the public review of the Draft Amendment Report and from the meetings held.

5.7 Comments and Response Report

A Comments and Response Report was kept up to date throughout the process with inputs and responses from all stakeholders.

5.8 Advising Stakeholders of Authority Decision

Registered IAPs will be advised in writing of the authorities' decisions when it is available. IAPs will be advised of the appeals procedure and will be thanked for their time and participation.

6 IDENTIFICATION OF IMPACTS AND ISSUES WITH MANAGEMENT MEASURES AND ACTION PLANS (EMP)

This chapter of the EIA/EMP report relates to the following sections of the MPRDA and Regulation 527 (GNR 527) of 23 April 2004 promulgated in terms of the MPRDA:

39(3) "An applicant who prepares an environmental management programme or an environmental management plan must –

(b) investigate, assess and evaluate the impact of his or her proposed prospecting or mining operations on –

(i) the environment;

(ii) the socio-economic conditions of any person who might be directly affected by the prospecting or mining operation; and

(iii) any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), with the exception of the national estate contemplated in section 3(2)(i) (vi) and (vii) of that Act."

"50(c) An assessment of the nature, extent, duration probability, and significance of the identified potential environmental, social and cultural impacts of the proposed mining operation, including cumulative environmental impacts".

This chapter of the EIA/EMP report describes and evaluates the potential impact Wits Gold's proposed mining and related activities, processes and actions, on the surrounding environment. It is the purpose of this part of the EIA/EMP report to indicate the impacts on the various aspects of the environment that are anticipated to be associated with the proposed activities, as required in terms of Sections 50 and 52 of the Government Notice (GN) R.527, dated March 2004, under the MPRDA, 2002.

This chapter of the EIA/EMP further provides the management measures and action plans recommended to manage the potential impacts rated in the EIA section. In addition the management measures provide the responsible person with compliance requirements (i.e. timeframes and guidelines) to ensure that these commitments are adhered to and implemented and the priority of these commitments.

6.1 Environmental Impact Significance Rating Methodology

To ensure uniformity, the assessment of potential impacts will be addressed in a standard manner so that a wide range of impacts is comparable. For this reason a clearly defined rating scale will be provided to the specialist to assess the impacts associated with their investigation.

Each impact identified will be assessed in terms of probability (likelihood of occurring), scale (spatial scale), magnitude (severity) and duration (temporal scale). To enable a scientific approach to the determination of the environmental significance (importance), a numerical value will be linked to each rating scale.

The following criteria will be applied to the impact assessment for the EIA/EMP:

Occurrence

- Probability of occurrence (how likely is it that the impact may occur?); and
- Duration of occurrence (how long may impact last?).

Severity

- Magnitude (severity) of impact (will the impact be of high, moderate or low severity?); and
- Scale/extent of impact (will the impact affect the national, regional or local environment, or only that of the site?).

Status of Impact

- +: Positive impact
- -: Negative impact
- N: Neutral (no impact)

In order to assess each of these factors for each impact, the following ranking scales were used:

Probability:=P	*Duration:=D*
5 – Definite/don't know	5 – Permanent
4 – Highly probable	4 - Long-term (ceases with the operational life)
3 – Medium probability	3 - Medium-term (5-15 years)
2 – Low probability	2 - Short-term (0-5 years)
1 – Improbable	1 – Immediate
0 – None	
Scale:=S	*Magnitude:=M*
5 – International	10 - Very high/don't know
4 – National	8 – High
3 – Regional	6 – Moderate
2 – Local	4 – Low
1 – Site only	2 – Minor
0 – None	
Status of Impact	
+: Positive	
-: Negative	
N: Neutral	

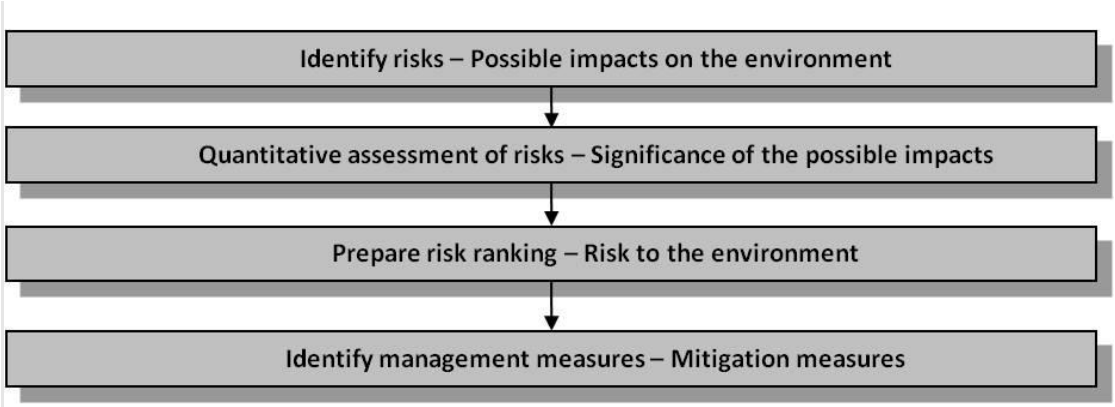
Once the above factors have been ranked for each impact, the environmental significance of each was assessed using the following formula:

SP = (magnitude + duration + scale) x probability

The maximum value that can be achieved is 100 Significance Points (SP). Environmental effects were rated as follows:

Significance	***Environmental Significance Points***	***Colour Code***
High (positive)	>60	H
Medium (positive)	30 to 60	M
Low (positive)	<30	L
Neutral	0	N
Low (negative)	>-30	L
Medium (negative)	-30 to -60	M
High (negative)	<-60	H

The following process will be followed:



No specialist findings have been modified by the EAP. The information provided within this report reflects the opinion of the specialists, in agreement with the EAP. The applicant has reviewed all the conditions.

6.2 Pre-Construction Phase

Wits Gold commits to obtain all necessary environmental authorisations from the relevant government departments, before undertaking any construction activities. Wits Gold also commits to obtain rezoning classification before any construction or operational activities commence.

Table 6-1 details the identified impacts and management measures for the pre-construction activities.

Table 6-1: Impacts and Management Measures for Pre-Construction Activities

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
Issues Relating to PERMITTING																				
Construction and Mining Related Activities will only commence upon approval of the rezoning application from agricultural to mining. This may cause a delay with regards to the planned operational schedule of the DBM Project.	Rezoning of Land	0	0	0	0	0	N	N	Construction and mining related activities will only commence upon approval of the rezoning application from agricultural to mining.	0	0	0	0	0	N	N	Apply for the rezoning of the area from agricultural to mining.	Prior to Construction	Project Manager/Applicant	Once off
Construction and Mining Related Activities will only commence upon approval of all environmental authorisations as required by environmental legislation. This may cause a delay with regards to the planned operational schedule of the DBM Project.	Timeframe Delays	0	0	0	0	0	N	N	Construction and mining related activities will only be commenced upon approval of the MPRDA EIA/EMP by the DMR.	0	0	0	0	0	N	N	Compile MPRDA EIA/EMP and obtain record of decision from the DMR.	Prior to Construction	Project Manager/Applicant	Once off
									Construction and mining related activities will only be commenced upon approval of the MPRDA SLP by the DMR.								Compile MPRDA SLP and obtain record of decision from the DMR.	Prior to Construction	Project Manager/Applicant	Once off
									Construction and mining related activities will only be commenced upon approval of the NEMA EIA/EMP by the DEA.								Compile NEMA EIA/EMP and obtain record of decision from the DEA.	Prior to Construction	Project Manager/Applicant	Once off
									Construction and mining related activities that trigger water uses in accordance with Section 21 of the NWA will only be commenced with upon approval of the NWA IWUL by the DWA.								Compile NWA IWUL and obtain record of decision from the DWA.	Prior to Construction	Project Manager/Applicant	Once off
Construction and Mining Related Activities will only commence upon approval of all environmental authorisations as required by environmental legislation. This may cause a delay with regards to the planned operational schedule of the DBM Project.	Access to Electricity	0	0	0	0	0	N	N	Construction and mining related activities will only commence once an electricity source has been confirmed with the electricity provider and the necessary record of decision provided to the relevant authorities (i.e. DMR and DEA).	0	0	0	0	0	N	N	Consult with Eskom regarding the opportunity to utilise power from the Theseus sub-station located close to the site.	Prior to Construction	Project Manager/Applicant	Once off
																	Ensure that the power lines established on site will not be impacted on by future mining operations and/or infrastructure expansions.	Prior to Construction	Project Manager/Applicant	Once off
Issues related to GEOLOGY																				
No significant pre-construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
Issues related to the blasting and vibration associated with shaft development on the surrounding land owners houses and other existing infrastructure on/around site.	Blasting and vibration	6	4	2	5	60	-	M	Undertake a blast and vibration assessment and crack survey on site and within a 2 km radius prior to the commencement of any construction activities.	4	4	2	4	40	-	M	Undertake a blast and vibration assessment prior to any blasting activities taking place on site.	Prior to Construction	Project Manager/Applicant/Geotechnical Specialist	Once off (R 165 000.00)
																	Undertake a crack survey of neighbouring properties to establish a baseline prior to undertaking any blasting activities on site. Undertake a follow-up crack survey after any blasting activities to confirm damage, if applicable, together with a photographic record.	Prior to Construction	Project Manager/Applicant/Geotechnical Specialist	R 95 000.00
Issues related to GEOHYDROLOGY																				
Baseline information is required for water quality and quantity monitoring purposes.	Baseline Monitoring	6	4	2	4	48	+	M	Groundwater quality monitoring networks must be set up prior to the construction phase so that any groundwater quality and quantity issues can be addressed accordingly.	8	4	2	5	70	+	H	Groundwater quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Coordinator	R 91 000.00
																	Determining potentiometric water level and aquifer potential of Witwatersrand aquifer.	Quarterly	Environmental Coordinator/Water Quality Specialist	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
																	Quarterly groundwater monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental Coordinator/Water Quality Specialist	R 42 000.00
																	In the event that water quality or quantity issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Coordinator/Water Quality Specialist	To be determined - depending on severity of incident
Issues related to HYDROLOGY																				
Baseline information is required for water quality monitoring purposes.	Baseline Monitoring	6	4	2	4	48	+	M	Surface water quality monitoring networks must be set up prior to the construction phase so that any surface water quality issues can be addressed accordingly.	8	4	2	5	70	+	H	Surface water quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Coordinator	R 91 000.00
																	Quarterly surface water monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental Coordinator/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Coordinator/Water Quality Specialist	To be determined - depending on severity of incident
Clean water runoff from areas outside the dirty water footprint area of the mine could flow into this area and potentially become polluted.	SWMP development	6	4	3	4	52	-	M	Seperation of clean and dirty water areas.	4	2	2	2	16	-	L	Indentify dirty water footprint area and separate clean and dirty water using a system of berms and drains.	Prior to Construction	Environmental Coordinator/Water Quality Specialist	R 150 000.00
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Crop production and grazing on land will cease	Fencing-off of mine areas, potential resettlement of farmers	1	5	8	5	70	-	H	No mitigation measures possible until closure and decommissioning phase	1	5	8	5	70	-	H	No mitigation measures possible until closure and decommissioning phase	N/A	N/A	N/A
Issues related to FAUNA AND FLORA																				
No significant pre-construction impacts are envisaged.		0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to AIR QUALITY																				
Baseline information is required in order to determine dust dispersion on site as a result of pre-mining activities as well as for ongoing air quality monitoring purposes.	Baseline Monitoring	6	4	2	4	48	+	M	A dust monitoring network must be set up prior to the construction phase so that any air quality or dust issues can be addressed accordingly.	8	4	2	5	70	+	H	Dust sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Coordinator	R 92 000.00
																	Monthly monitoring reports will be generated by the mine or through a suitably qualified air quality specialist.	Monthly	Environmental Coordinator/Air Quality Specialist	R 42 000.00
																	In the event that air quality or dust issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Coordinator/Air Quality Specialist	To be determined - depending on severity of incident
Issues related to NOISE																				
No significant pre-construction impacts are envisaged.		0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant pre-construction impacts are envisaged.		0	0	0	0	0	N	L	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
No significant pre-construction impacts are envisaged.		0	0	0	0	0	N	L	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
Increase in population size	Population	10	4	3	4	68	-	H	Implement according to proposed action plan.	8	4	4	3	48	-	M	• Employment criteria should be communicated to the community in advance (e.g. in newspapers, community forum notice boards, etc); • Local labour should be employed as far as possible; • Verify the details of potential employees in order to ensure that local labour is employed; • Accommodation for members of the workforce, other than security personnel, must not be permitted on site; The only semi-permanent structures that should be allowed on site is guard houses for security personnel; • Camp followers / informal traders must not be allowed to congregate outside the construction site; • Temporary staff should be housed in the surrounding communities, i.e. Bed and Breakfast establishments, etc. to prevent the establishment of construction camps; and • The AgriSA protocol for access to farms should be followed at all times.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Resettlement	Job Creation	10	2	1	3	39	-	M	Implement according to proposed action plan.	10	2	1	2	26	-	L	• Full disclosure and consultation with affected landowners; and • Develop a relocation plan to address impacts of resettlement, which will address issues of compensation, etc.; and • Establish communication with affected landowners to ensure that their needs and preferences are taken into consideration.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Waged labour	Job Creation	6	3	3	4	48	+	M	Implement according to proposed action plan.	8	4	3	4	60	+	M	• Unskilled and unemployed labour should be sourced from the surrounding local communities as far as possible; • Skills development opportunities should be granted to community members and local job seekers, where needed; • Maximise employment opportunities for the local communities and reduce the influx of a foreign labour force whilst ensuring an effective construction and operational phase; • Capture all project relevant skills in the project area with the aim to ensure maximum local employment; • Make use of any existing skills databases and include the local councillors and other representative community structures in the process; • Develop a Recruitment Manual to include a list of employment opportunities that will become available during the project planning,	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
																	construction and post-construction phases and provide guidelines on procedures to be followed by aspiring employment seekers; • Establish an employment information desk to assist with the day to day management of project related labour issues; • Identify and maximise on appropriate training and skills transfer opportunities that will enhance the skills level of the local labour force during the pre-construction, during construction and during full operation. It is recommended that training and skills development activities start during the construction period; • Project contracts between Wits Gold and the main contractor should stipulate the use of local labour for unskilled and semi-skilled positions and tasks; • Ensure that local businesses, especially those of Historically Disadvantaged Individuals (HDI), women and of Small, Micro and Medium Enterprises (SMMEs) get allocated the maximum appropriate share of project related business opportunities; and • Ensure that the Labour Relations Amendment Act, 2002 (Act No. 12 of 2002) as well as the necessary policies and procedures are taken into consideration to ensure the correct procurement procedures.									
Increase in standard of living (broader community)	N/A	4	2	3	3	27	+	L		8	4	3	3	45	+	M	• To increase the standard of living locally, the contractors employed should aim to ensure that local or surrounding people are employed where possible. It is furthermore suggested that all the employees should be motivated to spend their earned income locally. This can be achieved by ensuring that the goods and services required by the employees are provided for locally (if possible). The onus will lie on local shop owners to ensure that the demanded for goods and services are met; and • The employment of local residents during operation (as far as practically possible) would increase the standard of living, since they would have a higher disposable income and less transportation costs.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Increase in standard of living (local farmers)	Job Creation	8	4	2	3	42	-	M		6	3	1	3	30	-	M	• The reduced standard of living of affected landowners should be taken into consideration when determining the appropriate compensation of landowners.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
Actual health	Health	8	4	2	4	56	-	M	Implement according to proposed action plan.	4	4	3	3	33	-	M	• In order to reduce the impact on the local community it is important to maximise the use of local labour as far as possible; • Local labour should be employed as far as possible to avoid additional pressure on the existing services; • HIV / Aids awareness campaigns should be initiated by Wits Gold and provided to all its mine employees on a regular basis; • Wits Gold should investigate how they could assist in implementing a community health awareness programme in liaison with the LM; • Environmental pollution must be limited as far as possible and the requirements of the EMP be implemented to reduce the impact on surrounding landowners; • Environmental pollution must be limited as far as possible and the requirements of the EMP be implemented to reduce the impact on surrounding landowners; • The necessary safety precautions should be taken and first aid supplies should be made available on site; • All mine employees (including contractors) should undergo health and safety training on a regular basis; • The general health of employees should be monitored on an on-going basis and employees should be given free access to clinic services; • It is advised that Wits Gold, through consultation with the LM investigate ways in which their LED programmes and infrastructure development component of their SLP can assist in improving the overall health services within the communities; and • The required safety equipment should be provided to employees as well as on site and should be in a good working order.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Perceived health (prior to construction)	Health	8	4	2	4	56	-	M	Implement according to proposed action plan.	2	4	2	3	24	-	L	• Dust generation from surface stockpiles should be monitored and dust suppression measures be implemented; • Sufficient safety precautions should be put in place to limit the exposure of dust to mine workers; and • Continuous communication with affected landowners and community members should take place, informing them of the various mitigation measures put in place to limit the impact of dust on them.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Feelings in relation to the project	N/A	6	3	2	3	33	-	M	Implement according to proposed action plan.	6	2	2	2	20	-	L	• A comprehensive PPP should be implemented to effectively consult and involve the affected landowners and communities;	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs

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PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
																	• Continuous consultation with the affected communities should take place to keep them informed; • Consultation with the surrounding residents should take place on a continuous basis to understand, assess and mitigate their concerns where appropriate; • Wits Gold must be transparent about the areas they intend mining and the proposed mining method and technology; and • Information about the proposed mining methods should be made available to stakeholders to educate them about mining in general as well as the proposed mining methods.			
Aspirations for the future (local landowners)	N/A	10	3	1	3	42	-	M	Implement according to proposed action plan.	8	3	1	3	36	-	M	• It is critical that Wits Gold maintain an open and trusting relationship with the affected communities subsequent to the granting of the Mining Right.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Aspirations for the future (broader community)	N/A	4	2	2	3	24	+	L	Implement according to proposed action plan.	10	4	3	4	68	+	H	• Wits Gold must be honest and transparent about the potential economic benefits and employment opportunities that the proposed mine is likely to effect in these communities, in order to manage any undue expectations.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Physical quality of the living environment	N/A	10	4	2	4	64	-	H	Implement according to proposed action plan.	8	4	2	3	42	-	M	• Existing community forums must serve as liaison between the affected stakeholders and Wits Gold and can discuss traffic, dust, noise and construction related concerns with them; • Suppress dust by spraying water or non-contaminating palliative liquids on roads, crusher and screening plant, mills and vehicles; • Prevent dust blowing off transported materials by washing vehicles, wheels and covering loads; • Rehabilitate behind production with adequate top soiling, fertilisation, irrigation and correct choice of grasses to ensure year-round cover; • Prepare a noise reduction plan to cover all significant impacts at source and implement noise reduction and screening to limit exposure. Drilling and blasting is generally intermittent and should be limited to daylight hours when ambient noise levels are highest. A hearing conservation programme must be implemented where noise exceeds 85dB(A) in the mine or must not be more than 7dB(A) above ambient residual noise levels beyond mine boundary or nearest residential community; • The maximum acceptable night time noise levels should not be exceeded; • Traffic calming measures should be	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
																	put in place to minimise traffic noise; • Adequate monitoring of the biophysical impacts should occur in order to address any unnecessary inconveniences to stakeholders; • Mitigation and monitoring as recommended by the Water Quality Impact Assessments should be implemented; • Plant tall trees as barriers in gardens or in road reserve to reduce the visual and light intrusion, as well as noise impacts; • Recommendations made in the EIA/EMP and EMPr should be adhered to. • Rehabilitate behind production with adequate top soiling, fertilisation, irrigation and correct choice of grasses to ensure year-round cover; • Prepare a noise reduction plan to cover all significant impacts at source and implement noise reduction and screening to limit exposure. Drilling and blasting is generally intermittent and should be limited to daylight hours when ambient noise levels are highest. A hearing conservation programme must be implemented where noise exceeds 85dB(A) in the mine or must not be more than 7dB(A) above ambient residual noise levels beyond mine boundary or nearest residential community; • The maximum acceptable night time noise levels should not be exceeded; • Traffic calming measures should be put in place to minimise traffic noise; • Adequate monitoring of the biophysical impacts should occur in order to address any unnecessary inconveniences to stakeholders; • Mitigation and monitoring as recommended by the Water Quality Impact Assessments should be implemented; • Plant tall trees as barriers in gardens or in road reserve to reduce the visual and light intrusion, as well as noise impacts; and • Recommendations made in the EIA/EMP and EMPr should be adhered to.			
Aesthetic quality of the living environment	N/A	6	4	2	4	48	-	M	Implement according to proposed action plan.	4	4	2	4	40	-	M	• The design and specific positioning of the infrastructure should aim to minimise the possible negative visual impact of the mine on the surrounding property owners; • The design of the mine buildings should blend in with surrounding environment; • Implement re-vegetation as levels are abandoned to break the form,	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
																	reduce colour contrast, dust generation or contaminated runoff; and • Recycle dumps or use as backfill with appropriate permission.			
Availability and quality of housing	N/A	2	3	2	3	21	-	L	Implement according to proposed action plan.	8	4	3	3	45	+	M	• Employees should be educated with regards to their accommodation options; • Housing needs should be monitored and addressed in consultation and cooperation with the applicable LMs; and • Maximise the employment of locals to limit the need for any additional housing infrastructure, as far as possible. • In consultation with the municipality and other mines operating in the area, ensure that the necessary planning for upgrades of social infrastructure, where lacking due to the proposed mine, take place; • Involvement in upliftment programmes should be done according to the priority needs and projects identified as part of the LMs IDP, as well as in consultation with other stakeholders such as the local community representatives, ward committees and youth organisations;	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Adequacy and access to social infrastructure	N/A	6	3	2	2	22	-	L	Implement according to proposed action plan.	8	4	2	4	56	+	M	• Continuous involvement of the mine would be necessary and should be undertaken in a transparent and supportive manner; • Implement a regular and formalised consultation process with local government to ensure synergy between the mine's social development and LED focus; • Communication of the projects that Wits Gold would be involved in should filter through to all community levels to ensure maximum benefit to the community; and • Community development projects initiated by Wits Gold should avoid benefiting only a selected few but should follow a broad based approach, whilst also taking budgeting constraints into consideration.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Personal safety and hazard exposure	N/A	6	4	2	4	48	-	M	Implement according to proposed action plan.	4	3	2	3	27	-	L	• Local, unemployed labour should be employed as far as possible; • Accommodation for members of the workforce, other than security personnel, must not be permitted on site; • The only semi-permanent structures that should be allowed on site is guard houses for security personnel; • Camp followers / informal traders must not be allowed to congregate	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs

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PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
																	outside the construction site; • Strict security measures should be put in place. Security personnel should be on site on a permanent basis; • Construction workers should be confined to the construction area and should wear uniforms or identity tags to be easily identified; • The mining area should be fenced to avoid unauthorised entry by humans or animals onto the mining area; • The contractor should communicate the construction schedule and vehicle movements to the neighbouring property owners in advance; • Workers must not be allowed to overnight on the premises and must be transported to their places of residence by bus on a daily basis; • Workers must not be allowed to leave the designated mining areas without permission; • A Health and Safety Plan should be implemented and it must be ensured that all managers are trained in First Aid and other relevant safety courses; • Implement safety measures to limit fire hazards and implement fire breaks if possible; • Wits Gold should, in conjunction with the property owners, develop and implement emergency procedures; • Operational safety risks should be addressed as part of the OHS Act; • A Fire/Emergency Management Plan should be developed and implemented. It is important that this management plan and associated communication channels are developed at the outset of the construction phase. It would be important to regularly review the functionality and efficiency of such a plan in conjunction with the local emergency teams, mine management and neighbouring landowners; • Open fires for cooking and related purposes should not be allowed on site; • Appropriate fire fighting equipment should be on site and construction workers should be appropriately trained for fire fighting; • The construction sites should be clearly marked and “danger” and “no entry” signs should be erected; • Speed limits on the local roads surrounding the construction sites should be enforced; and • Speeding of construction vehicles must be strictly monitored.			

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PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
Crime and violence	N/A	4	3	3	2	20	-	L		4	2	3	2	18	-	L	• Local, unemployed labour should be employed as far as possible; • Wits Gold must liaise with the LMs and labour unions to establish a protocol for ensuring community safety; • Mine workers should be clearly identifiable by ensuring they wear uniforms and identification cards that should be exhibited in a visible place on their body; and • The AgriSA protocol for access to farms should be followed in all instances where access to farmers' land is required.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Loss of natural and cultural heritage	N/A	8	5	1	3	42	-	M		8	2	1	1	11	-	L	• The recommendations of the HIA should be implemented; • Local residents and farmers should be consulted to determine any possible heritage sites not identified by the HIA; and • Local residents and farmers should inform mitigation measures when addressing any potential impact on cultural heritage sites or graves.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Social networks	N/A	6	3	2	3	33	-	M	Implement according to proposed action plan.	6	3	2	2	22	-	L	• Employ local residents as far as possible; • Make use of credible SMME's for the provision of goods and services; and • Embark on regular communication efforts towards the community with regards to the mine's involvement in the communities. This could be done through an already established community forum.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Functioning of government agencies	N/A	8	3	3	4	56	-	M	Implement according to proposed action plan.	6	4	3	3	39	-	M	• Assist the LM with the diversification of the local economy; • Emphasise the use of local service providers and SMMEs and focus on the development of LED programmes; and • Institute a joint municipal coordinating and implementing committee to support the municipality's local economic and social develop needs and requirements, where feasible.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Impact equity (affected landowners)	N/A	8	4	1	3	39	-	M	Implement according to proposed action plan.	6	3	1	2	20	-	L	• Negative impacts on the local property owners should be limited as far as possible such as intrusion impacts (dust, noise, and air pollution). Mitigation measures from the specialist studies dealing with these issues should thus be strictly implemented; • Safety and security measures are critical to avoid any increase in criminal activities within the local study area; and • The use of local labour must be maximised as far as possible.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Impact equity (community members)	N/A	4	2	3	3	27	+	L	Implement according to proposed action plan.	8	4	3	3	45	+	M	• Skills training and development should be maximised to benefit as many local employees as possible;	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs

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PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
																	and • The use of local labour must be maximised as far as possible.			
Gendered division of labour	N/A	4	3	3	2	20	+	L	Implement according to proposed action plan.	6	4	3	3	39	+	M	• Women must have equal employment opportunities; • Training and skills development should take place for women; • Salaries of women should be equal to that of men when undertaking the same job; • Commitments made in the SLP with regard to the employment of women should be adhered to; and • Institute a well designed gender equality strategy on the mine.	Ongoing	Environmental Control Officer	Included in Construction and Operational Costs
Issues related to safety and security of surrounding land owners must be addressed.	Access	10	4	2	5	80	-	H	Access to the plant area, TSF and equipment will be of limits to the public at all times during all phases of the project.	6	4	1	4	44	-	M	Markers and pegs will be erected and maintained along the boundaries of the working areas, access roads, haul roads and paths before commencing with any work. If proved insufficient for control, these shall be replaced by fencing.	Prior to construction	Health and Safety Officer	To be determined
																	Security will be established at access points of the project area which will record entry and exit of vehicles.	Prior to construction	Health and Safety Officer	To be determined
									Safety and security impacts associated with the inflow of a workforce are sensitive issues which should be thoroughly addressed to limit any possible negative impacts on the surrounding landowners. A baseline of current criminal activity and safety/security risks must be established with input for the local municipality and the SAPS.	6	4	1	3	33	-	M	A community forum consisting of representatives of the project proponent, contractors, local leaders such as councillors, the Environmental Coordinator and the property owners should be established. The aim of such a forum would be to set up local safety and security measures to deal with the inflow of workers and possible jobseekers and to adapt the measures if and when required.	Prior to construction	Health and Safety Officer/Project Manager/ Environmental Coordinator	As required
Mining projects often attract jobseekers from within the study area or even from other areas even prior to construction commencing. This situation is usually worsened by exaggerated rumours of possible employment opportunities.	Influx of jobseekers	8	2	2	5	60	-	M	Develop a strategy to minimise the influx of outsiders to the area. The establishment of a labour desk to deal with jobseekers is critical.	6	2	2	4	40	-	M	Prior to construction commencing, community meetings and the local newspaper could be used to communicate details of the project (actual skills and number of workers required) to minimise the influx of unqualified jobseekers to the project area.	Prior to construction	Health and Safety Officer/HR Manager	As required
Inflow of temporary workers from outside the local community and the potential for conflict between locals and these “outsiders”.	Inflow of temporary workers	8	2	2	5	60	-	M	Maximise the use of local labour and contractors where possible by developing a strategy to involve local labour in the construction process e.g. communicate the construction requirements through the local leaderships such as the ward committees, ward councillors and representatives of the local and , and advertise in the local newspapers in the local languages.	6	2	2	4	40	-	M	Before construction commences, representatives from the local municipality, local leaders (e.g. councillors), community-based organisations, as well as neighbouring residents should be informed of the details of the construction company, size of the workforce and construction schedules.	Prior to construction	Project Manager/ Environmental Coordinator/HR Manager	As required
For the duration of the construction period, non-local and/or temporary contract workers forming part of the construction team of the main contractor will require accommodation.	Housing of workforce	8	3	3	5	70	-	H	Ensure that non-local and/or temporary contract workers are provided with accommodation for the duration of the construction period.	6	2	1	4	36	-	M	Before construction commences, representatives from the local municipality, local leaders (e.g. councillors), community-based organisations, as well as affected property owners should be consulted regarding accommodation options for	Prior to construction	Project Manager/ Environmental Coordinator	As required

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PRE-CONSTRUCTION PHASE: ACTIVITIES REQUIRING MANAGEMENT MEASURES																				
																	non-local and/or temporary workers. Construction activities and schedules, as well as the location of construction camps, if applicable, should be discussed and finalised with these representatives.			
									Ensure that non-local and/or temporary contract workers and other jobseekers do not “squat” within local settlements or on private properties.	4	2	1	4	28	-	L	Undertake regular inspections of the project area and surrounding properties to determine if squatting is taking place. If squatting is observed, contact the local municipality and police immediately for assistance in addressing the situation.	On-going	Health and Safety Officer/Project Manager/ Environmental Coordinator	As required
Mining developments are usually perceived as a positive injection to the economic standard of an area as it could lead to further developments in the area. The proposed DBM project would thus contribute to the economy due to the possible expenditure during the construction phase which could result in business opportunities for the local and regional economy, especially with regards to the local service industry. It is further anticipated that a large proportion of the wage bill earned by construction workers would be spent within the local municipal area resulting in local economic benefits with subsequent indirect spin-offs for local businesses.	Local Economic Contribution	8	2	3	4	52	+	M	Involve local companies in the procurement process as much as possible in order to ensure further indirect economic spin-offs and benefits to the local economy.	10	4	2	5	80	+	H	Wits Gold should develop a database of local companies, including credible SMMEs that could qualify as potential service providers prior to the initiation of the tender process, to enable these local companies and SMMEs to be involved with the tender process. DBM should liaise with local stakeholders, as well as with representatives of the local municipality.	Already commenced	Procurement Manager/Project Manager/ HR Manager	To be determined
The effect the mining operation will have on property values of surrounding land owners.	Property values	10	4	2	5	80	-	H	Minimise the impact of the mining operation on the surrounding land owners.	8	3	1	4	48	-	M	Undertake a property evaluation of the surrounding properties prior to the initiation of construction activities so that a baseline value can be identified and recorded.	Negotiations already commenced	Project Manager/Applicant	Once off
																	Develop a strategy to address issues raised by surrounding land owners pertaining to impacts on property values that addresses how such issues will be addressed and managed, as well as potential compensation rates.	Prior to construction	Project Manager/Applicant	Ongoing
Issues related to HERITAGE																				
Evidence of 2 sites of archaeological/cultural importance occur within the greater project area. Potential impacts on these must be minimised.	N/A	6	3	2	4	44	-	M	Fence the identified areas off.	4	4	2	4	40	-	M	Ensure that the identified sites are fenced off and the sites are not disturbed by pre-construction and/or mining activities.	N/A	N/A	N/A
Issues related to WETLANDS																				
No significant pre-construction impacts are envisaged.	N/A	0	0	0	0	0	N	L	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to RADIATION																				
No significant pre-construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A

6.3 Construction Phase

After the Pre-Construction Phase has been completed and finalised, Wits Gold will commence with the construction phase for their mining activities and project related infrastructure in line with their approved environmental authorisations.

During the construction phase the following activities will take place on site:

- Construction of service roads;
- Construction of power lines where necessary;
- Construction of access roads where necessary;
- Water pollution control structures;
- Construction of shaft access;
- Construction of ancillary infrastructure; and
- Clean and dirty water infrastructure.

The main construction activities for the infrastructure mentioned above that will have an impact on the bio-physical environment will be:

- Footprint clearance:
    - The removal of vegetation/agriculture material from the area;
    - The removal/stripping and stockpiling of topsoil and subsoil;
    - The movement of vehicles on site, and on regional road;
    - An increase of workers for construction activities;
    - Start of visual impact;
    - Noise generation;
    - Fugitive dust generation; and
    - Change in surface water run-off and drainage patterns.
- Establishment of infrastructure:
    - Construction of ancillary infrastructure relating to the mining area (ventilation shafts; offices; workshops; diesel storage; and power lines);
    - Movement of vehicles on site, and on regional road;
    - Increase of workers for construction activities and informal job-seekers;
    - Start of visual impact;
    - Noise generation;
    - Fugitive dust generation; and
    - Change in surface water run-off and drainage patterns.
- Establishment of Box-cut if applicable (Incline Shaft):
    - Movement of vehicles on site;
    - Noise generation;

  - Fugitive dust generation; and
  - Change in surface water run-off and drainage patterns.
- Waste Handling:
  - Domestic and construction waste generation;
  - Waste storage;
  - Movement of vehicles on site to storage facilities;
  - Diesel storage for construction activities; and
  - Establishment and upgrade of the pollution control dams, the slit traps and the clean and dirty water systems.
- Cumulative Impacts resulting from construction activities.

6.3.1 Geohydrology

The Karoo aquifer within a 1000 m radius of the shafts and/or decline area could be dewatered, especially during the construction phase of these facilities. The only supply borehole that could be affected by the aquifer dewatering will be MO_2 on Moedersdrift, belonging to Mr. A.B. Pienaar. However, this risk can be mitigated by grouting the sidewalls, which will prevent inflows causing aquifer dewatering.

6.3.2 Hydrology

It is anticipated that most risks posed to local surface water resources could be effectively managed by an appropriate storm-water management plan.

- Deep seepage from the TSF facilities into local watercourses is unlikely due to the location of discard facilities far from rivers and streams. It is possible that a TSF located towards the east of the planned discard area could allow seepage into deep and well-drained sandy soils that will eventually seep into local river systems. The design of TSFs will take into consideration seepage risks and, if needed, make allowance for sealing or lining of the base of a tailings dam.
- Other seepage will be collected by means of return water drains and transferred to return water dams. In this case, where stormwater will be treated and discharged, water from return water dams should be considered as a first priority water supply to processing and treatment plants.
- A concern that needs to be addressed is the dust created in TSFs that could add to local atmospheric pollution. Dust from the tailings dams of other mines in the vicinity of the town of Virginia is widely claimed to pose health risks to local inhabitants. Dust suppression on the TSFs constructed for this mine is considered to be important.

- Dirty water runoff conveyance and storage systems at the mine will be controlled by structures and control measures as prescribed in the Storm-water Management Plan.

6.3.3 Soils, Land Use and Land Capability

For the impact assessment, all the following phases of the project cycle were considered for potential impacts on soil and land capability. Below is a description of each of the activities per construction phase that may result in soil impacts:

- Establishment of box cuts in the portal area and shaft area for underground mining access;
- Establishment of haul roads;
- Establishment of water management infrastructure;
- Clearing of vegetation in areas designated for surface infrastructure;
- Stripping and stockpiling of topsoil and sub-soil;
- Digging of foundations and trenches;
- Preparation of residue disposal areas (waste dumps);
- Delivery of materials (steel and equipment) as well as transport of construction personnel; and
- General building/construction activities.

6.3.4 Fauna & Flora

No impacts were identified that could lead to a beneficial impact on the ecological environment of the study area since the proposed development is largely destructive. The following impacts were identified that are relevant to the proposed development:

- Direct impacts:
    - Direct impacts on flora species of conservation importance;
    - Direct impacts on fauna species of conservation importance;
    - Loss, or disruption of mammal migration routes on a local scale;
    - Direct impacts on sensitive/ pristine habitat types of the study area; and
    - Direct impacts on common fauna species occurring on the study area.
- Indirect Impacts:
    - Faunal interactions with structures, servitudes and personnel; and
    - Impacts on surrounding habitat/ species, including ecosystem functioning.

It could reasonably be expected, and was confirmed in the Impact Assessment, that surface impacts on the natural environment constitute the most significant impact on biodiversity attributes of the study area. The decimation of remaining areas of natural habitat during the

construction phase will not only completely destroy the existing habitat within areas of high ecological sensitivity, but will also destroy the potential of other area to be inhabited by a relative diverse and natural composition of plants and animals. Most of the area comprises agricultural fields where extremely little natural attributes occur and consequently moderate and low ecological sensitivities were ascribed. The loss of these areas is unlikely to affect the local or regional biodiversity attributes to a significant level or the conservation status of animals that are likely to inhabit these parts.

Small portions of the study area are considered ecologically important on a local scale; attributes that contribute to this sensitivity include the presence of conservation important animals and plants, a high diversity of species noted and a relative pristine status. Impacts within these areas are expected to be significant and severe. The endorheic pans, whilst not currently in a prime condition due to the absence of water, are likely to be inhabited by a diverse composition of animals when inundated for a prolonged period. It is also likely that conservation important species will utilise these features during specific periods (for example the Marsh Sylph during flowering periods of the grass *Leersia hexandra*). Similarly, the remaining portion of natural grassland in the eastern part of the study area is regarded sensitive in terms of biodiversity attributes. Not only was a diverse composition of plants and animals noted within this area, the presence of plants and animals of conservation importance were noted, reflecting the relative pristine nature of this portion of grassland, in spite of relative high grazing pressure.

The only manner in which these portions of habitat can be conserved is by excluding them from the proposed development, the natural grassland in particular. In contrast, it is only reasonable to expect that it is impossible to conserve all the endorheic pans, as it will affect the proposed development significantly. However, every effort should be made to conserve as much of this habitat type as possible. The exclusion of these areas from the proposed development is likely to reduce the probability of impacts to an acceptable level. Included in this statement is the understanding that all site specific and generic mitigation measures are implemented in order to prevent impacts from spilling into adjacent sensitive areas.

6.3.5 Wetlands

The following impacts are expected to occur as a result of the proposed project activities:

Construction Phase:

- Loss of wetland habitat;
- Increased sediment movement into adjacent wetlands;

- Altered run-off characteristics of the landscape leading to changes in hydrology supporting the wetlands on site; and
- Water quality deterioration due to storage, handling, leaks and spills of a variety of polluting substances on site.

6.3.6 Air Quality

The proposed activities will result in dust emissions, both from mining activities and fugitive emissions from the large areas of previously vegetated land that will now be exposed. Provided sufficient mitigation measures are instigated, it is unlikely that these emissions resulting from mining activity will result in the exceedence of South Africa's guidelines for particulate emissions.

The dump is an area of concern, although it is impossible to determine whether the emissions that result from Wits Gold DBM's activities will increase or decrease the fugitive dust emissions from the dump in question. It is recommended that care be taken in the design and structure of the dump, and that the existing dust fall out monitoring network be redesigned to centre around the dump, with monitors in the sensitive reception areas of Virginia and Meloding.

6.3.7 Traffic

It is evident that the traffic generated by the proposed development does not have a significant impact on the external road network. In terms of the intersection and road link capacity, no improvements are recommended since the intersections under investigation are expected to operate at acceptable level of service.

The interaction (turning movements) between construction vehicles, public transport and privates vehicles might impose some safety hazardous to the vehicles drivers. It is therefore recommended that the following measures be adopted to mitigate the impact:

- Surfacing of S239 Road between Virginia Way and the S239 / Access Road intersection.
- Construction of an exclusive right turn lane, on the northbound approach as indicated in Drawing 2984/GL/01.The exclusive right turn lane should be constructed with a 60 m length and a 60 m tapper.
- Provision of lighting at sufficient standards at the intersection of the S239 (Theunissen Street), S1279 and Jan Hofmeyer Street routes and the access to the development.

- No on-street pick up/drop offs at the intersection of the S239 (Theunissen Street) S1279 and Jan Hofmeyer Street routes and the access to the development (drop-offs/pickup should be done on site).

6.3.8 Social

The social change processes shown in are expected to take place as a result of this project.

Demographic processes	Economic processes	Geographic processes
• In-migration; • Presence of temporary workers; • Resettlement; and • Displacement / dispossession.	• Waged labour; and • Conversion and diversification of economy.	• Conversion and diversification of land use; • Enhanced transport and rural accessibility; and • Physical splintering.

Institutional and legal processes	Emancipatory and empowerment processes	Socio-cultural processes
• No impacts are expected.	• Capacity building.	• Social behaviour.

It is important to pause here and clarify that the actual impacts experienced at a given project site will depend on a variety of factors, that range between the baseline conditions, the public participation process, engagement and capacity building that has taken place, the type of mining methods and minerals mined, the role of politics, most notably in local municipalities and the other processes of social change either already under way (e.g. due to exploration activities), or which may develop during the life of the mine.

6.3.9 Heritage

6.3.9.1 Site 1

The development will have a direct impact on site 1. The exact nature thereof is however not known at this stage and will be confirmed by the client when the exact footprint has been finalised. Due to the sensitivity of this issue, graves are always regarded as having a high cultural significance.

With graves it usually is best to incorporate them into the development plan for the site. Should this be possible, the graveyard should then be fenced off and kept intact. Access to any descendants should also be allowed. A management plan needs to be drafted and implemented and it should also be monitored once a year by a heritage expert.

Should the above not be possible the graves will have to be exhumed and the bodies reburied. This is a lengthy process including social consultation for 60 days in order to find families of the deceased and to obtain their permission.

In the case of graves older than 60 years and those with an unknown date of death (as in this case) an archaeologist as well as an undertaker will have to be part of the team involved. For graves with a date of death of younger than 60 years, only an undertaker is involved.

6.3.9.2 Site 2

Site 2 falls to the west and just outside of the footprint area of the proposed mining development. Therefore there will not be a direct impact on the site, but there will be a secondary one. The buildings are regarded as having a medium cultural significance. It still is in a good condition, but is not very unique.

The buildings should remain intact and may even be reutilized. Any structural changes should be communicated with the Provincial Heritage Resources Agency (PHRA) of the Free State Province and a permit will be required to do so. The buildings should not be demolished.

6.3.10 Radiation

Impact on public safety as a result of exposure to radioactivity.

Table 6-2 - **Table 6-5** details the identified impacts and management measures for the construction activities.

Table 6-2: Impacts and Management Measures for Construction Phase Activities: Footprint Clearance and road establishment

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
Issues related to GEOLOGY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
Removal of vegetation and the associated shaping of the area to prepare footprint for construction will allow for increased surface water runoff, which may lead to change in topographical characteristics of the area.	Vegetation clearance	6	4	2	4	48	-	M	Construction areas must be clearly demarcated to control movement of personnel and vehicles, providing clear boundaries for construction sites in order to limit the spread of impacts.	4	4	1	3	27	-	L	Markers and pegs will be erected and maintained along the boundaries of the working areas, access roads, haul roads and paths before commencing any work. If proved insufficient for control, these shall be replaced by fencing.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Removal of vegetation must be undertaken in a phased approach to limit surface exposure.								The contractor will ensure that all activities, material and equipment storage and personnel movement take place within the designated area.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Erosion control measures must be implemented early in the construction phase.								Employees and contractors will complete induction on the EMP, Environmental Awareness Plan and Emergency Response Plan prior to construction activities being undertaken. All workers will be made aware of the penalty systems for non compliance.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Clean and dirty water separation must be implemented early in the construction phase, especially down-gradient of construction areas.								Draw up a procedure clearly reflecting the method and phases of clearance of vegetation only in areas where construction will take place.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Linear infrastructure must follow for as far as practically possible the natural contours of the area.								The topsoil material will be stockpiled in a designated area for rehabilitation at closure/decommissioning.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Maintain and monitor the implementation of dirty water separation.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Issues related to GEOHYDROLOGY																				
Clearing topsoil for footprint areas can increase infiltration rates of water to the groundwater system and decrease buffering capacity of soils to absorb contaminants from spills on surface. This can increase the risk of contamination of the groundwater system (increases aquifer vulnerability).	Footprint clearance	8	2	2	5	60	-	M	Mitigation is not possible, but water quality monitoring is essential.	8	2	2	5	60	-	M	Groundwater quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental control officer	R 91 000.00
																	Quarterly groundwater monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality or quantity issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Issues related to HYDROLOGY																				
Baseline information is required for water quality monitoring purposes.	Baseline Monitoring	6	4	2	4	48	+	M	Surface water quality monitoring networks must be set up prior to the construction phase so that any	8	4	2	5	70	+	H	Surface water quality sampling will be undertaken on a monthly basis and analysed according to the prescribed	Monthly	Environmental Coordinator	R 91 000.00

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
									surface water quality issues can be addressed accordingly.								monitoring programme contained in the EIA/EMP.			
																	Quarterly surface water monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental Coordinator/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Coordinator/Water Quality Specialist	To be determined - depending on severity of incident
Footprint clearance activities will cause soil erosion to occur, and subsequent sediment transport and siltation of water courses or could obstruct natural runoff patterns.	Vegetation clearance	8	3	2	5	65	-	H	Temporary attenuation dams must be constructed downstream of the proposed area if construction will occur during the wet season. This measure is required to mitigate the sediment transport and erosion impact.	4	3	2	3	27	-	L	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998.	Prior to construction	Environmental Control Officer/ Project Manager	Included in construction costs.
																	Maintain and monitor the implementation of dirty water separation infrastructure.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
																	Construct the required erosion protection measures.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Spillages on site may lead to surface water pollution.	Heavy vehicle movement	8	4	2	4	56	-	M	Employees and contractors will be educated to make them aware of the necessity to prevent spillages through the implementation of good housekeeping practices.	4	4	2	3	30	-	M	Employees and contractors will complete induction on the EMP, Environmental Awareness Plan and Emergency Response Plan prior to construction activities being undertaken. All workers will be made aware of the penalty systems for non compliance.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									The management of chemicals and hydrocarbons must form part of the emergency preparedness and response programme.								Employees and contractors will complete induction prior to construction activities being undertaken and the Environmental Awareness Plan and Emergency Response Plan must be implemented.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Vegetation and topsoil cleared from building sites and roadways could obstruct natural drainage, divert clean water into dirty water areas, cause waterlogging of adjacent areas or pollute water resources.	Footprint clearance	4	4	2	3	30	-	M	Rehabilitate taking into account natural drainage paths.	4	2	1	1	7	-	L	Overburden that is removed should be spread at a suitable location and immediately rehabilitated, taking into account natural drainage paths, in accordance with appropriate drainage plans.	During construction phase	Environmental Control Officer	Included in construction costs.
Runoff water that is trapped and passes through culverts and drains could cause local soil erosion.	Drainage pathways	4	4	3	3	33	-	M	Control and manage water release.	4	2	2	1	8	-	L	All water releases shall be controlled and flow channels shall be designed to an acceptable standard.	During construction phase	Environmental Control Officer	Included in construction costs.
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Dilution of fertile topsoil component	Vegetation removal	**1**	**5**	**8**	**5**	70	-	H	Keep as much original landcover/topsoil as possible					0	-	L	Implement mitigation in accordance with the mitigation measures proposed.	**During construction phase**	Environmental Control Officer	Included in construction costs.
Loss of topsoil stabilisation	Vegetation removal	**1**	**5**	**8**	**5**	70	-	H	Keep as much original landcover/topsoil as possible					0	-	L	Implement mitigation in accordance with the mitigation measures proposed.	**During construction phase**	Environmental Control Officer	Included in construction costs.
Loss of grazing land capability	Vegetation removal	**1**	**5**	**8**	**5**	70	-	H	Rehabilitate land as close to the original land-use as possible					0	-	L	Implement mitigation in accordance with the mitigation measures proposed.	**During construction phase**	Environmental Control Officer	Included in construction costs.
Soil compaction	Movement of vehicles over soil surface	**2**	**4**	**6**	**4**	48	-	M	Keep infrastructure localized to reduce footprint					0	-	L	Implement mitigation in accordance with the mitigation measures proposed.	**During construction phase**	Environmental Control Officer	Included in construction costs.
Removal and stripping of soil will allow for increased surface water runoff, which may lead to an increased erosion potential.	Removal and stockpiling of soil	10	2	1	5	65	-	H	Soils of significantly different soil groups based on characteristics like clay content should be stockpiled separately. This is to ensure that	6	2	1	3	27	-	L	The top 500 mm of topsoil will be removed from the area where surface infrastructure is to be developed. The topsoil will be stored in berms	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
									their characteristics are suitable for the drainage conditions once replaced. Soils should be separated into categories based on clay content, and into topsoil and subsoil horizons. The topsoil will be re-used during the rehabilitation phase.								along the perimeter of the site. Care will be taken to ensure that the berm is not located within any surface water channels. The berms will not exceed 5 m in height.			
Removal of vegetation will expose soils and allow for increased surface water runoff, which may lead to an increased erosion potential.	Vegetation clearance	10	2	1	5	65	-	H	Areas must not be stripped of vegetation before the area will be needed for construction. Use phased approach in clearance activities.	6	2	1	3	27	-	L	Draw up a procedure clearly reflecting the method and phases of clearance of vegetation only in areas where construction will take place.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
									Re-establishment of vegetation will be encouraged after construction. If area is exposed for longer than 18 months and no self-succession has taken place, other options must be investigated.								Develop a monitoring programme for vegetation in the construction area. After 18 months assess area and determine if it is necessary to implement a re-vegetation plan for the area.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
									Effective dust management must be employed during the construction phase.								Draw up a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility. Establish barriers/berms to limit runoff.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Soil physical and chemical degradation will occur as a result of soil stripping and stockpiling, will lead to the loss of soil resource and will impact on soil characteristics.	Removal and stockpiling of soil	10	2	1	4	52	-	M	Topsoil and subsoil stripping will be conducted up to a suitable depth for construction purposes, at least 400 mm. Different soils must be stockpiled separately in designated areas.	6	2	1	2	18	-	L	Designate specific areas for the stockpiling of topsoil and subsoil. Develop a soil stripping plan for immediate implementation and monitor the area post stripping.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
									Topsoil and subsoil stockpiles must be vegetated.								Develop a monitoring programme for vegetation in the construction area. After 18 months assess area and determine if it is necessary to implement a re-vegetation plan for the area.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
									The topsoil that is collected will be stockpiled in such a way that dust and water erosion is limited. Stockpiles will be constructed in such a way to ensure stability and thereby preventing the possibility of wash down. Soils which are stripped could be used in the construction of berms or other storm water management measures.								Draw up a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
									Erosion control measures must be implemented where height exceeds 1.5 m. A soil conservation guide should be developed and implemented. No vehicle movement will be permitted over any of the stockpile areas.								Ensure the required erosion protection measures are maintained, monitored and corrected where necessary.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
The use of heavy machinery during the construction process will result in the compaction of soil, resulting in decreased infiltration of rain water and increased surface run-off volumes and velocities leading to a greater erosion risk.	Heavy vehicle movement	8	2	2	4	48	-	M	All areas not directly within the proposed infrastructure footprint area where the soil has been compacted will need to be ripped to break up the compacted soil surface. This will aid infiltration and decrease run-off.	4	2	1	2	14	-	L	Develop a plan clearly defining the construction area. After construction activities determine which areas must be ripped and potentially re-vegetated. Implement the plan with proper measures in place not to compact new areas.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
									All ripped areas need to be re-vegetated with a suitable mix of plant species as determined by a qualified specialist. All re-vegetated areas								Develop a monitoring programme for vegetation in the construction area. After 18 months assess area and determine if it is necessary to	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
									should be monitored to ensure successful re-establishment of natural vegetation and to prevent invasion by alien species.								implement a re-vegetation plan for the area.			
Soil pollution due to the spillages of hydrocarbons along construction routes.	Heavy vehicle movement	8	2	2	4	48	-	M	Employees and contractors will be educated by means of training to make them aware of the necessity to prevent spillages through the implementation of good housekeeping practices. The management of chemicals and hydrocarbons should form part of the emergency response programme. No activities associated with hydrocarbons and or chemicals (i.e. wash bays etc.) may be undertaken outside of an effectively designed contained area.	4	2	1	2	14	-	L	Employees and contractors will complete induction on the EMP, Environmental Awareness Plan and Emergency Response Plan prior to construction activities being undertaken. All workers will be made aware of the penalty systems for non compliance.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Employees and contractors will complete induction prior to construction activities being undertaken and the Environmental Awareness Plan and Emergency Response Plan must be implemented.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
General disturbance of the area.	Footprint clearance	6	2	2	4	40	-	M	A combination of mining and agriculture should be considered as part of the land use plan .	4	2	1	3	21	-	L	Implement the rehabilitation plan as developed and required.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Loss of agricultural and grazing land capability.	Land Capability Change	6	2	2	4	40	-	M	The grazing and wilderness land capability of the proposed site will be lost once the topsoil has been stripped.	2	2	1	2	10	-	L	Implement the rehabilitation plan as developed and required to restore grazing and wilderness land capability	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Issues related to FAUNA AND FLORA																				
Direct impacts on flora species of conservation importance.	Vegetation clearance	8	5	4	5	85	-	H	Exclude sensitive areas and provide protection for nearby sensitive areas.	8	5	4	1	17	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Ecologist/Proponent	Included in construction costs.
Direct impacts on fauna species of conservation importance.	Vegetation clearance	8	5	4	5	85	-	H	Exclude sensitive areas and provide protection for nearby sensitive areas.	8	5	4	1	17	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Ecologist/Proponent	Included in construction costs.
Loss or disruption of mammal migration routes.	Vegetation clearance	6	5	2	5	65	-	H	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; allow for natural crossings where possible; control movement of personnel; and limit speeds of vehicles.	6	4	2	3	36	-	M	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Direct impacts on sensitive/pristine habitat types.	Vegetation clearance	8	5	3	3	48	-	M	Exclude sensitive areas and provide protection for nearby sensitive areas; limit the spread of impacts to nearby sensitive areas.	8	5	3	2	32	-	M	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer	Included in construction costs.
Direct impacts on common fauna species of the study area.	Vegetation clearance	4	4	2	5	50	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; and limit speeds of vehicles.	4	4	2	4	40	-	M	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Faunal interaction with structures, servitudes and/or personnel.	Vegetation clearance	4	5	3	4	48	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; and limit speeds of vehicles.	4	4	2	3	30	-	M	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Impacts on surrounding habitat/species, including ecosystem functioning.	Vegetation clearance	6	4	2	3	36	-	M	Limit spread of impacts to adjacent areas and provide adequate protection for nearby sensitive areas.	6	4	2	2	24	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Health & Safety Officer	Included in construction costs.
Issues related to AIR QUALITY																				

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CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
Fugitive dust emissions as a result of the movement of vehicles and removal of material for construction purposes will have a negative impact in terms of visual characteristics/air quality.	Heavy vehicle movement	6	2	2	4	40	-	M	The impact during construction phase is limited to a short period only. All mine haul roads will be treated with dust suppressant chemicals or watered in order to reduce the impact of dust on the aesthetics of the surrounding area.	2	2	2	3	18	-	L	Establish a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	Daily	Environmental Control Officer	Included in construction costs.
Generation of windblown dust	Exposure of underlying soil	4	2	2	3	24	-	L	Recover exposed land promptly, where possible.	2	2	2	3	18	-	L	Establish a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	Daily	Environmental Control Officer	Included in construction costs.
Issues related to NOISE																				
Noise will be generated as a result of the removal of vegetation, transportation and stockpiling of topsoil and subsoil's.	Heavy vehicle movement	6	2	2	4	40	-	M	At this stage construction activities are planned to take place during daytime period only. This may change to a 24 hour 7 day a week approach depending on the outcome of the BFS.	4	2	2	3	24	-	L	Where noise becomes a nuisance, management measures will be investigated and implemented to address these.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									The use of noise barriers or earth berms and screening of noise at individual source where an activity can be clearly heard at the boundary will be implemented.								Machinery with low noise levels and maintained in a good order to be used and to comply with the IFC's Health and Safety Regulations.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Use mufflers on engine exhausts and compressor components, and vibration isolation for mechanical equipment.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Issues related to TRAFFIC																				
Potential access road S239	Heavy vehicle movement	6	5	3	5	70	-	H	Geometry and surfacing of access road.	2	4	3	2	18	-	L	Construct road and surfacing.	Once plus maintenance	Project Manager	R100 000 - R4 000 000 every 5 - 10 years
Mine access	Heavy vehicle movement	2	4	2	4	32	-	M	Geometry and surfacing of mine access road.	2	4	2	2	16	-	L	Construct access.	Once plus maintenance	Project Manager	R10 000 - R1 000 000 every 5 - 10 years
Railway line level crossing	Heavy vehicle movement	8	5	3	5	80	-	H	Provide alternative access from R73.	3	4	1	2	16	-	L	Provide and construct alternative access.	Once plus maintenance	Project Manager	R10 000 - R1 000 000 every 5 - 10 years
									Provide road signs, flash lights, control booms & height restriction.	3	4	3	2	20	-	L	Provide road signs, flash lights, control booms & height restriction.	Once plus maintenance	Project Manager	R10 000 - R500 000 every 20 - 30 years
Public transport facility	Heavy vehicle movement	2	4	2	3	24	-	L	Provision of public transport facility	2	4	3	2	18	-	L	Construction of public transport facility.	Once plus maintenance	Project Manager	R10 000 - R500 000 every 10 - 15 years
Street lights at access intersection	Heavy vehicle movement	2	4	2	3	24	-	L	Provision of street lights	2	4	1	2	14	-	L	Provision of street lights.	Once plus maintenance	Project Manager	R10 000 - R500 000 every 10 - 15 years
Increase in vehicular movement on site will impact traffic volumes in the project area.	Heavy vehicle movement	8	4	4	5	80	-	H	As part of the construction requirements access roads will have to be established and/or upgraded.	6	4	3	3	39	-	M	Ensure that road construction meets the requirements of the operation.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Enforce speed limit restrictions on all vehicles.								Speed enforcement must be implemented (40 km/hr for heavy vehicles and 60 km/hr for light vehicles on gravel roads). Implement a strict penalty system for non-compliance.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Do not allow pedestrian pick-ups on any roads.								Implement a strict penalty system for non-compliance .	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
An informal intersection is in place at the S239 Road/access point.	Heavy vehicle movement	6	5	3	5	70	-	H	Upgrading of intersection at the S239 Road/access point.	4	5	2	3	33	+	M	Upgrade the intersection of the S239 Road/access point.	Once off	Project Manager/Applicant	Included in construction costs.
Impacts on vehicle safety (i.e. access spacing, road alignment, lighting, etc).	Heavy vehicle movement	6	4	2	4	48	-	M	Provision of light at sufficient standards at the intersection of the S239 Road/access point. Do not allow on-street pick up/drop offs at the	2	5	2	4	36	+	M	Provide sufficient light at the S239 Road/access point intersection.	Once off	Project Manager/Applicant	Included in construction costs.

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CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
									intersection of the S239/access road to the development (drop-offs/pickup should be done on site).											
Issues related to VISUAL																				
Fugitive dust emissions as a result of vegetation clearance and associated bare areas may have a negative impact in terms of air quality and visual characteristics.	Heavy vehicle movement	8	2	2	5	60	-	M	Effective dust management must be employed during the construction phase.	4	2	1	3	21	-	L	Draw up a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Issues related to SOCIAL																				
Increase in population size		10	4	3	4	68	-	H	Implement according to proposed action plan.	8	4	4	3	48	-	M	• Employment criteria should be communicated to the community in advance (e.g. in newspapers, community forum notice boards, etc); • Local labour should be employed as far as possible; • Verify the details of potential employees in order to ensure that local labour is employed; • Accommodation for members of the workforce, other than security personnel, must not be permitted on site; The only semi-permanent structures that should be allowed on site is guard houses for security personnel; • Camp followers / informal traders must not be allowed to congregate outside the construction site; • Temporary staff should be housed in the surrounding communities, i.e. Bed and Breakfast establishments, etc. to prevent the establishment of construction camps; and • The AgriSA protocol for access to farms should be followed at all times.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Effect of temporary workers on social dynamics		8	4	3	3	45	-	M	Implement according to proposed action plan.	4	3	3	3	30	-	M	• Chemical latrines or ablution facilities must be provided to workers in close proximity to the site; • Employ local labour as far as possible (within a 20 km radius); • Avoid the establishment of camps, hostels or temporary accommodation for workers. Accommodation should be provided at suitable locations in Virginia and Welkom and surrounds; and • Ensure that during the project construction process and the operational phase of the project, employees receive adequate health support from the project team for work-related health problems.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Waged labour		6	3	3	4	48	-	M	Implement according to proposed action plan.	8	4	3	4	60	-	M	• Unskilled and unemployed labour should be sourced from the surrounding local communities as far as possible; • Skills development opportunities should be granted to community members and local job seekers, where needed; • Maximise employment opportunities for the local communities and reduce	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
																	the influx of a foreign labour force whilst ensuring an effective construction and operational phase; • Capture all project relevant skills in the project area with the aim to ensure maximum local employment; • Make use of any existing skills databases and include the local councillors and other representative community structures in the process; • Develop a Recruitment Manual to include a list of employment opportunities that will become available during the project planning, construction and post-construction phases and provide guidelines on procedures to be followed by aspiring employment seekers; • Establish an employment information desk to assist with the day to day management of project related labour issues; • Identify and maximise on appropriate training and skills transfer opportunities that will enhance the skills level of the local labour force during the pre-construction, during construction and during full operation. It is recommended that training and skills development activities start during the construction period; • Project contracts between Wits Gold and the main contractor should stipulate the use of local labour for unskilled and semi-skilled positions and tasks; • Ensure that local businesses, especially those of Historically Disadvantaged Individuals (HDI), women and of Small, Micro and Medium Enterprises (SMMEs) get allocated the maximum appropriate share of project related business opportunities; and • Ensure that the Labour Relations Amendment Act, 2002 (Act No. 12 of 2002) as well as the necessary policies and procedures are taken into consideration to ensure the correct procurement procedures.			
Conversion and diversification of economic activities (local economy)		4	3	3	3	30	+	M	Implement according to proposed action plan.	6	3	3	3	36	+	M	• Consideration should be given to the fact that agricultural practises will be compromised and that it may become impractical, as well as uneconomical to continue; • Affected landowners must be consulted to establish means to continue farming practises, i.e. as part of a Local Economic Development project to supply the mine with produce; • Economic development should take place in line with the Local	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
																	Municipality's IDP, as well as their Spatial Development Framework; and • The establishment of new businesses should comply with zoning and local by-law requirements.			
Conversion and diversification of economic activities (farmers)		10	4	2	3	48	-	M	Implement according to proposed action plan.	8	3	1	3	36	-	M	• The placement of mine infrastructure should avoid splintering farms, and should be done in consultation with affected landowners; • Consideration should be given to buying out properties in its entirety to reduce the risk of dissolving the economic unit of the farm; • Consideration should be given to the fact that agricultural practises will be compromised and that it may become impractical, as well as uneconomical to continue; and • Affected landowners must be consulted to establish means to continue farming practises, i.e. as part of a Local Economic Development project to supply the mine with produce.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Increase in standard of living (broader community)		4	2	3	3	27	-	L	Implement according to proposed action plan.	8	4	3	3	45	-	M	• To increase the standard of living locally, the contractors employed should aim to ensure that local or surrounding people are employed where possible. It is furthermore suggested that all the employees should be motivated to spend their earned income locally. This can be achieved by ensuring that the goods and services required by the employees are provided for locally (if possible). The onus will lie on local shop owners to ensure that the demanded for goods and services are met; and • The employment of local residents during operation (as far as practically possible) would increase the standard of living, since they would have a higher disposable income and less transportation costs.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Increase in standard of living (local farmers)		8	4	2	3	42	-	M	Implement according to proposed action plan.	6	3	1	3	30	-	M	• The reduced standard of living of affected landowners should be taken into consideration when determining the appropriate compensation of landowners.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Employment creation and decrease in unemployment		4	3	3	3	30	+	M	Implement according to proposed action plan.	6	4	3	3	39	+	M	• It is suggested that non-locals should only be hired when specialist skills, which are not available locally, are required and local business providing such skills cannot be created. The following aspects in this regard should receive priority: o Labour based construction methods should be used whenever practically possible; o Local residents and communities should be employed, wherever	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
																	possible; o Local construction companies should be used whenever possible, especially for subcontracting work; and o Local suppliers should be used as far as possible.			
Conversion and diversification of land use		6	4	3	4	52	-	M	Implement according to proposed action plan.	4	4	3	4	44	-	M	• Educate landowners in terms of their rights and responsibilities prior to the project going ahead; • Assist landowners in identifying ways to adapt their land uses; • Plan to avoid splitting agricultural land and natural habitats; • Integrate the mining area with regional land use planning objectives where possible; and • Take into account surrounding land uses and design post-mining land use options to support and enhance long-term development options.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Transportation and rural accessibility		4	4	3	2	22	-	L	Implement according to proposed action plan.	6	4	3	4	52	+	M	• Employ local labour as far as possible to limit the negative impacts on the infrastructure and services within the area (e.g. roads); • Wits Gold should, in liaison with the relevant Roads and Traffic Department, assist with the regular maintenance of the roads frequently used by construction and mine traffic; • Speed limits on the local roads surrounding the mining site should be enforced; • Appropriate traffic management measures should be planned for and implemented, especially during the construction phase with the expected increase in heavy vehicle traffic; and • The mitigation measures proposed by the TIA should be implemented, where relevant.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Capacity building (skills transfer)		6	2	3	4	44	+	M	Implement according to proposed action plan.	10	3	3	4	64	+	H	• Recruit and train local residents to supply unskilled labour during the construction and operational phase; • The use of diverse activities should be stimulated, allied with, but not reliant on, construction related activities such as outsourcing catering activities to local businesses. The local municipality could assist local residents and business owners to garner the benefit associated with the spin-offs emanating from the proposed mine; • Stakeholders should be mutually accountable for increased opportunities regarding skills and competency development (general education and technical training). This will enable active participation, not only in the construction sector, but also in other spheres of the	Ongoing	Environmental Control Officer	Included in construction and operational costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
																	economy, as well as providing opportunities for career enhancement; • Training should be concentrated on skills that can be readily transferred to other employment opportunities in the local area to avoid persons with trained skills leaving the area for work elsewhere; • The project implementers and/or the contractors should identify the required jobs to be undertaken prior to the construction phase to enable local recruitment and/or some form of basic training; • It is recommended that a comprehensive program for recruiting, hiring, training, orienting and counselling be established. The nature of the training provided does not need to be limited to specific project related tasks and can include financial planning, bookkeeping, general arithmetic etc; • The principles of the Expanded Public Works Programme must be adhered to and effective labour-based construction technologies must be used to increase the positive effects of job creation; • Ensure that stakeholders have knowledge of the support of legislation and regulations; • The implementation of the SLP should be monitored on an annual basis; • Ensure compliance to the BBSEC and MPRDA; and • Ensure that the employment and training of HDSA and women meet the requirements of the BBSEC.							
Social behaviour		6	4	2	3	36	-	M	Implement according to proposed action plan.	6	2	2	3	30	-	M	• Establish a code of conduct for construction and mine workers with strict control measures; • Require mine personnel to wear identification badges to distinguish them from trespassers or unwanted loiterers; • Liaise with the SAPD in order to implement effective crime prevention strategies; and • Liaise with existing forums in the community to communicate information to the community and to assist in the monitoring of compliance.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Nutrition		8	4	4	4	64	-	H	Implement according to proposed action plan.	6	3	3	4	48	-	M	• In relation to exposures from any particular source of mining, protection and safety shall be optimised in order that the magnitude of individual doses, the number of people exposed and the likelihood of incurring exposures all	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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																	be kept as low as reasonably achievable, economic and social factors being taken into account, within the restriction that the doses to individuals delivered by the source be subject to dose constraints; • Implement a radiation monitoring programme and establish means of isolating radiogenic materials; • Implement the recommendations from the Radiological Study; • Preparation of radiation management plan; • Establish and maintain a safety culture to encourage a questioning and learning attitude to protection and safety and to discourage complacency; • Establish policies and procedures that identify protection and safety and makes it of highest priority; • Promptly identify and correct problems affecting protection and safety; • Safety assessments related to protection and safety measures for sources of radiation associated with mining shall be made at different stages; • All employees on site, as well as surrounding landowners, should receive general radiation safety training to maintain a safe working and living environment for all; and • Establish procedures that ensure there is as little exposure as possible of the workforce and of the public to dust contaminated with radioactive material during mining.			
Actual health		8	4	2	4	56	-	M	Implement according to proposed action plan.	4	4	3	3	33	-	M	• In order to reduce the impact on the local community it is important to maximise the use of local labour as far as possible; • Local labour should be employed as far as possible to avoid additional pressure on the existing services; • HIV / Aids awareness campaigns should be initiated by Wits Gold and provided to all its mine employees on a regular basis; • Wits Gold is to investigate how they could assist in implementing a community health awareness programme in liaison with the LM; • Environmental pollution must be limited as far as possible and the requirements of the EMP be implemented to reduce the impact on surrounding landowners; • Environmental pollution must be limited as far as possible and the requirements of the EMP be implemented to reduce the impact on surrounding landowners;	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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																	• The necessary safety precautions should be taken and first aid supplies should be made available on site; • All mine employees (including contractors) should undergo health and safety training on a regular basis; • The general health of employees should be monitored on an on-going basis and employees should be given free access to clinic services; • It is advised that Wits Gold, through consultation with the LM investigate ways in which their LED programmes and infrastructure development component of their SLP can assist in improving the overall health services within the communities; and • The required safety equipment should be provided to employees as well as on site and should be in a good working order.			
Feelings in relation to the project		6	3	2	3	33	-	M	Implement according to proposed action plan.	6	2	2	2	20	-	L	• A comprehensive PPP should be implemented to effectively consult and involve the affected landowners and communities; • Continuous consultation with the affected communities should take place to keep them informed; • Consultation with the surrounding residents should take place on a continuous basis to understand, assess and mitigate their concerns where appropriate; • Wits Gold must be transparent about the areas they intend mining and the proposed mining method and technology; and • Information about the proposed mining methods should be made available to stakeholders to educate them about mining in general as well as the proposed mining methods.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Aspirations for the future (local landowners)		10	3	1	3	42	-	M	Implement according to proposed action plan.	8	3	1	3	36	-	M	• It is critical that Wits Gold maintain an open and trusting relationship with the affected communities prior and subsequent to the granting of the Mining Right.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Aspirations for the future (broader community)		4	2	2	3	24	+	L	Implement according to proposed action plan.	10	4	3	4	68	+	H	• Wits Gold must be honest and transparent about the potential economic benefits and employment opportunities that the proposed mine is likely to effect in these communities, in order to manage any undue expectations.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Physical quality of the living environment		10	4	2	4	64	-	H	Implement according to proposed action plan.	8	4	2	3	42	-	M	• Existing community forums must serve as liaison between the affected stakeholders and Wits Gold and can discuss traffic, dust, noise and construction related concerns with them; • Suppress dust by spraying water or non-contaminating palliative liquids on roads, crusher and screening	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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																	plant, mills and vehicles; • Prevent dust blowing off transported materials by washing vehicles, wheels and covering loads; • Rehabilitate behind production with adequate top soiling, fertilisation, irrigation and correct choice of grasses to ensure year-round cover of the open pit; • Prepare a noise reduction plan to cover all significant impacts at source and implement noise reduction and screening to limit exposure. Drilling and blasting is generally intermittent and should be limited to daylight hours when ambient noise levels are highest. A hearing conservation programme must be implemented where noise exceeds 85dB(A) in the mine or must not be more than 7dB(A) above ambient residual noise levels beyond mine boundary or nearest residential community; • The maximum acceptable night time noise levels should not be exceeded; • Traffic calming measures should be put in place to minimise traffic noise; • Adequate monitoring of the biophysical impacts should occur in order to address any unnecessary inconveniences to stakeholders; • Mitigation and monitoring as recommended by the Water Quality Impact Assessments should be implemented; • Plant tall trees as barriers in gardens or in road reserve to reduce the visual and light intrusion, as well as noise impacts; • Recommendations made in the EMP and EMPr should be adhered to. • Rehabilitate behind production with adequate top soiling, fertilisation, irrigation and correct choice of grasses to ensure year-round cover; • Prepare a noise reduction plan to cover all significant impacts at source and implement noise reduction and screening to limit exposure. Drilling and blasting is generally intermittent and should be limited to daylight hours when ambient noise levels are highest. A hearing conservation programme must be implemented where noise exceeds 85dB(A) in the mine or must not be more than 7dB(A) above ambient residual noise levels beyond mine boundary or nearest residential community; • The maximum acceptable night time noise levels should not be exceeded; • Traffic calming measures should be			

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																	put in place to minimise traffic noise; • Adequate monitoring of the biophysical impacts should occur in order to address any unnecessary inconveniences to stakeholders; • Mitigation and monitoring as recommended by the Water Quality Impact Assessments should be implemented; • Plant tall trees as barriers in gardens or in road reserve to reduce the visual and light intrusion, as well as noise impacts; and • Recommendations made in the EMP and EMPr should be adhered to.			
Aesthetic quality of the living environment		6	4	2	4	48	-	M	Implement according to proposed action plan.	4	4	2	4	40	-	M	• The design and specific positioning of the infrastructure should aim to minimise the possible negative visual impact of the mine on the surrounding property owners; • The design of the mine buildings should blend in with surrounding environment; • Implement re-vegetation as levels are abandoned to break the form, reduce colour contrast, dust generation or contaminated runoff; and • Recycle dumps or use as backfill with appropriate permission.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Availability and quality of housing		2	3	2	3	21	-	L	Implement according to proposed action plan.	8	4	3	3	45	+	M	• Employees should be educated with regards to their accommodation options; • Housing needs should be monitored and addressed in consultation and cooperation with the applicable LMs; and • Maximise the employment of locals to limit the need for any additional housing infrastructure, as far as possible.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Adequacy of physical infrastructure		10	4	3	4	68	-	H	Implement according to proposed action plan.	8	4	3	3	45	+	M	• Ensure that the needed public services and capital facilities are in place before the peak construction occurs. This will ensure that demand for these services do not exceed supply; • The provision of infrastructural services must be integrated with the economic needs of the community; • Wits Gold, in liaison with the LM should proactively plan for enough infrastructure and services to meet the maximum potential of the mine in terms of service and infrastructure demand; • Measures must be taken to address infrastructure development as part of future planning; • The relevant authorities, and bodies involved in the supply of bulk services should be informed about the proposed project to ensure that it	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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																	gets incorporated into their demand projections; • Promote local procurement of suppliers and contractors for the transport system.			
Adequacy and access to social infrastructure		6	3	2	2	22	-	L	Implement according to proposed action plan.	8	4	2	4	56	+	M	• In consultation with the municipality and other mines operating in the area, ensure that the necessary planning for upgrades of social infrastructure, where lacking due to the proposed mine, take place; • Involvement in upliftment programmes should be done according to the priority needs and projects identified as part of the LMs IDP, as well as in consultation with other stakeholders such as the local community representatives, ward committees and youth organisations; • Continuous involvement of the mine would be necessary and should be undertaken in a transparent and supportive manner; • Implement a regular and formalised consultation process with local government to ensure synergy between the mine's social development and LED focus; • Communication of the projects that Wits Gold would be involved in should filter through to all community levels to ensure maximum benefit to the community; and • Community development projects initiated by Wits Gold should avoid benefiting only a selected few but should follow a broad based approach, whilst also taking budgeting constraints into consideration.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Personal safety and hazard exposure		6	4	2	4	48	-	M	Implement according to proposed action plan.	4	3	2	3	27	-	L	• Local, unemployed labour should be employed as far as possible; • Accommodation for members of the workforce, other than security personnel, must not be permitted on site; • The only semi-permanent structures that should be allowed on site is guard houses for security personnel; • Camp followers / informal traders must not be allowed to congregate outside the construction site; • Strict security measures should be put in place. Security personnel should be on site on a permanent basis; • Construction workers should be confined to the construction area and should wear uniforms or identity tags to be easily identified; • The mining area should be fenced to avoid unauthorised entry by	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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																	humans or animals onto the mining area; • The contractor should communicate the construction schedule and vehicle movements to the neighbouring property owners in advance; • Workers must not be allowed to overnight on the premises and must be transported to their places of residence by bus on a daily basis; • Workers must not be allowed to leave the designated mining areas without permission; • A Health and Safety Plan should be implemented and it must be ensured that all managers are trained in First Aid and other relevant safety courses; • Implement safety measures to limit fire hazards and implement fire breaks if possible; • Wits Gold should, in conjunction with the property owners, develop and implement emergency procedures; • Operational safety risks should be addressed as part of the OHS Act; • A Fire/Emergency Management Plan should be developed and implemented. It is important that this management plan and associated communication channels are developed at the outset of the construction phase. It would be important to regularly review the functionality and efficiency of such a plan in conjunction with the local emergency teams, mine management and neighbouring landowners; • Open fires for cooking and related purposes should not be allowed on site; • Appropriate fire fighting equipment should be on site and construction workers should be appropriately trained for fire fighting; • The construction sites should be clearly marked and “danger” and “no entry” signs should be erected; • Speed limits on the local roads surrounding the construction sites should be enforced; and • Speeding of construction vehicles must be strictly monitored.				
Crime and violence		4	3	3	2	20	-	L	Implement according to proposed action plan.	4	2	3	2	18	-	L	• Local, unemployed labour should be employed as far as possible; • Wits Gold must liaise with the LMs and labour unions to establish a protocol for ensuring community safety; • Mine workers should be clearly identifiable by ensuring they wear uniforms and identification cards that should be exhibited in a visible place on their body; and	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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																	• The AgriSA protocol for access to farms should be followed in all instances where access to farmers' land is required.			
Loss of natural and cultural heritage		8	5	1	3	42	-	M	Implement according to proposed action plan.	8	2	1	1	11	-	L	• The recommendations of the HIA should be implemented; • Local residents and farmers should be consulted to determine any possible heritage sites not identified by the HIA; and • Local residents and farmers should inform mitigation measures when addressing any potential impact on cultural heritage sites or graves.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Social networks		6	3	2	3	33	-	M	Implement according to proposed action plan.	6	3	2	2	22	-	L	• Employ local residents as far as possible; • Make use of credible SMME's for the provision of goods and services; and • Embark on regular communication efforts towards the community with regards to the mine's involvement in the communities. This could be done through an already established community forum.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Functioning of government agencies		8	3	3	4	56	-	M	Implement according to proposed action plan.	6	4	3	3	39	-	M	• Assist the LM with the diversification of the local economy; • Emphasise the use of local service providers and SMMEs and focus on the development of LED programmes; and • Institute a joint municipal coordinating and implementing committee to support the municipality's local economic and social develop needs and requirements, where feasible.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Impact equity (affected landowners)		8	4	1	3	39	-	M	Implement according to proposed action plan.	6	3	1	2	20	-	L	• Negative impacts on the local property owners should be limited as far as possible such as intrusion impacts (dust, noise, and air pollution). Mitigation measures from the specialist studies dealing with these issues should thus be strictly implemented; • Safety and security measures are critical to avoid any increase in criminal activities within the local study area; and • The use of local labour must be maximised as far as possible.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Impact equity (community members)		4	2	3	3	27	+	L	Implement according to proposed action plan.	8	4	3	3	45	+	M	• Skills training and development should be maximised to benefit as many local employees as possible; and • The use of local labour must be maximised as far as possible.	Ongoing	Environmental Control Officer	Included in construction and operational costs.
Gendered division of labour		4	3	3	2	20	+	L	Implement according to proposed action plan.	6	4	3	3	39	+	M	• Women must have equal employment opportunities; • Training and skills development should take place for women; • Salaries of women should be equal to that of men when undertaking the same job; • Commitments made in the SLP with	Ongoing	Environmental Control Officer	Included in construction and operational costs.

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																	regard to the employment of women should be adhered to; and • Institute a well designed gender equality strategy on the mine.			
Surrounding farm owners have indicated that they are not all in favour of the mine being established due to the potential impacts it may have on their lives.	Construction activities	10	4	1	5	75	-	H	An issues and complaints register containing contact details of the complainant and a description of the issue/complaint received will be established and kept on site.	6	4	1	4	44	-	M	Continually update the issues and response register as and when complaints/issues are received.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
The possible discrepancies between locally available skills and the requirements of the project within the more skilled levels could be responsive to training and skills development prior to the construction phase.	Employment Opportunities and Skills Inequities	8	2	3	4	52	-	M	Maximise the use of local labour and Employees and contractors where possible by developing a strategy to involve local labour in the construction process.	4	2	2	3	24	-	L	It is recommended that local individuals applying for work should submit their Curriculum Vitae (CV's) directly to the mine. Some proof of residence should be attached.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	Make use of any existing databases of available workers and include the local councillor and other representative community structures in the process.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	Project contracts between the developer and the main contractor should stipulate the use of local labour for unskilled and semi-skilled positions and tasks.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	Enhance on a capacity building and skills development strategy to lessen any possible skills disparity between the local skills available and the requirements of the project.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	Project requirements should be discussed with community representatives to avoid unrealistic expectations among local community members.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	Remuneration packages should take cognisance of existing remuneration provided to local labourers and skills/experience of labourers.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	Farm workers should be informed of the possible negative impacts of discarding their long term employment positions as farm workers for short term positions that could possibly have some short term financial benefits, without long term guarantees.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
Construction related projects often attract jobseekers from within the study area or even from other provinces even prior to construction commencing. This situation is usually worsened by exaggerated rumours of possible employment opportunities. The impact of in-migration as a direct result of the proposed project is, expected to occur both prior and during the construction phases of the proposed development.	Influx of jobseekers	8	4	3	4	60	-	M	Develop a strategy to minimise the influx of outsiders to the area. The establishment of a labour desk to deal with jobseekers is critical. The existing HR policy can be amended to address this aspect.	6	4	3	3	39	-	M	No temporary workers should be employed from jobseekers gathering at the construction site.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	The unskilled and semi-skilled positions should be filled by permanent residents from the surrounding areas where possible. Proof of residence should be provided when applying for jobs.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	The applicant and Employees and contractors should ensure a fair and transparent recruiting process to limit the potential for conflict between locals in search of employment.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	Focused communication efforts to the local communities are critical so that unrealistic expectations regarding the	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.

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																	number of temporary workers required are not created.			
																	Informal vendors at the construction site should be strictly managed to avoid conflict, as well as environmental pollution. The provision of formal stalls for vendors would assist in minimising this impact.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
Issues related to safety and security of surrounding land owners must be addressed.	Access	10	4	2	5	80	-	H	Access to the plant area, TSF and equipment will be of limits to the public at all times during all phases of the project.	4	3	2	4	36	-	M	Markers and pegs will be erected and maintained along the boundaries of the working areas, access roads, haul roads and paths before commencing with any work. If proved insufficient for control, these shall be replaced by fencing.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
																	Security will be established at access points of the project area which will record entry and exit of vehicles.	During construction phase	Environmental Control Officer/ Project Manager/HR Manager	Included in construction costs.
									Safety and security impacts associated with the inflow of a workforce are sensitive issues which should be thoroughly addressed to limit any possible negative impacts on the surrounding landowners. A baseline of current criminal activity and safety/security risks must be established with input for the local municipality and the SAPS.								A community forum consisting of representatives of the Company, Employees and contractors, local leaders such as councillors, the Environmental Control Officer and the property owners should be established. The aim of such a forum would be to set up local safety and security measures to deal with the inflow of workers and possible jobseekers and to adapt the measures if and when required.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
Mining projects often attract jobseekers from within the study area or even from other areas even prior to construction commencing. This situation is usually worsened by exaggerated rumours of possible employment opportunities.	Influx of jobseekers	10	3	3	5	80	-	H	Develop a strategy to minimise the influx of outsiders to the area. The establishment of a labour desk to deal with jobseekers is critical.	6	3	2	3	33	-	M	Prior to construction commencing, community meetings and the local newspaper could be used to communicate details of the project (actual skills and number of workers required) to minimise the influx of unqualified jobseekers to the project area.	During construction phase	Health and Safety Officer/HR	Included in construction costs.
Inflow of temporary workers from outside the local community and the potential for conflict between locals and these “outsiders”.	Inflow of temporary workers	10	3	2	5	75	-	H	Maximise the use of local labour and Employees and contractors where possible by developing a strategy to involve local labour in the construction process e.g. communicate the construction requirements through the local leaderships such as the ward committees, ward councillors and representatives of the local and , and advertise in the local newspapers in the local languages.	6	3	2	4	44	-	M	Before construction commences, representatives from the local municipality, local leaders (e.g. councillors), community-based organisations, as well as neighbouring residents should be informed of the details of the construction company, size of the workforce and construction schedules. A community forum should also be actively involved in this process.	During construction phase	Project Manager/ Environmental Control Officer/HR	Included in construction costs.
The potential in-migration of workers is likely to result in other cumulative impacts, such as conflict with existing community members, social inconveniences and / or problems and pressures on existing infrastructure. This process of potential in-migration is anticipated to have a major effect on the farmers in close proximity to the proposed mine.	Effect of temporary workers on social dynamics	6	4	3	3	39	-	M	Ensure that non-local and/or temporary contract workers are provided with accommodation for the duration of the construction period. Employ local labour as far as possible (within a 20 km radius);. Avoid the establishment of camps, hostels or temporary accommodation for workers. Accommodation should be provided at suitable locations in Virginia, Theunissen, Welkom and surrounds	4	3	2	3	27	-	L	Before construction commences, representatives from the local municipality, local leaders (e.g. councillors), community-based organisations, as well as affected property owners should be consulted regarding accommodation options for non-local and/or temporary workers. Construction activities and schedules, as well as the location of construction camps, if applicable, should be	During construction phase	Project Manager/ Environmental Control Officer	Included in construction costs.

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																	discussed and finalised with these representatives.			
									Chemical latrines or ablution facilities must be provided to workers in close proximity to the site								Undertake regular inspections of the project area and surrounding properties to determine if squatting is taking place. If squatting is observed, contact the local municipality and police immediately for assistance in addressing the situation.	On-going	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
									Ensure that during the project construction process and the operational phase of the project, Employees and Employees and contractors receive adequate health support from the project team for work-related health problems.											
Mining developments are usually perceived as a positive injection to the economic standard of an area as it could lead to further developments in the area. The proposed DBM project would thus contribute to the economy due to the possible expenditure during the construction phase which could result in business opportunities for the local and regional economy, especially with regards to the local service industry. It is further anticipated that a large proportion of the wage bill earned by construction workers would be spent within the local municipal area resulting in local economic benefits with subsequent indirect spin-offs for local businesses.	Local Economic Contribution	6	4	2	4	48	+	M	Involve local companies in the procurement process as much as possible in order to ensure further indirect economic spin-offs and benefits to the local economy.	8	4	3	4	60	+	M	Wits Gold should develop a database of local companies, including credible SMMEs that could qualify as potential service providers prior to the initiation of the tender process, to enable these local companies and SMMEs to be involved with the tender process. DBM should liaise with local stakeholders, as well as with representatives of the local municipality.	During construction phase	Procurement Manager/Project Manager/HR Manager	Included in construction costs.
Even though the area is not known for various tourist facilities and the study area is not situated within a tourist node, it is still expected that the local hospitality industry could benefit through the provision of accommodation and meals to a large part of the professional construction team members (e.g. engineers, managers, consultants and product representatives) who would stay in the area for the duration of the construction phase.	Local Tourism Industry					0	+	L	The local hospitality industry should receive preference should accommodation facilities be required.					0	-	L	Implement contractual requirement for Employees and contractors to procure goods and services locally as far as possible.	During construction phase	Procurement Manager/Project Manager/HR Manager	Included in construction costs.
The majority of property owners consulted indicated that they cultivate crops on their properties. These activities falling within the footprint area would be severely negatively affected due to the development footprint and would have to come to a halt. The cultivation of crops in close proximity to the site could also be negatively affected by dust creation due to the use of the gravel roads on site, possible blasting and the initial site earthworks (especially during harvesting times).	Construction activities	8	2	2	4	48	+	M	A dust monitoring network must be set up prior to the construction phase so that any air quality or dust issues can be addressed accordingly.	8	4	2	5	70	+	H	Dust sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer	R 92 000.00
																	Monthly monitoring reports will be generated by the mine or through a suitably qualified air quality specialist.	Monthly	Environmental Control Officer/Air Quality Specialist	R 42 000.00
																	In the event that air quality or dust issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Control Officer/Air Quality Specialist	To be determined - depending on severity of incident
The possibility of crop and equipment losses due to theft as well as potential damage to farming	Construction activities	6	3	2	3	33	-	M	Strict security measures should be put in place to prevent crop theft, equipment theft and infrastructure	2	2	2	3	18	-	L	A community forum consisting of representatives of the project proponent, Employees and contractors, local leaders such as	During construction phase	Health and Safety Officer/Project Manager/	Included in construction costs.

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infrastructure during the construction phase is a grave concern.									damage. Security personnel should be on site on a permanent basis.								councillors, the Environmental Control Officer and the property owners should be established. The aim of such a forum would be to set up local safety and security measures to deal with the potential for crop theft, equipment theft and infrastructure damage and to adapt the measures if and when required.		Environmental Control Officer	
																	Personnel at the mine need to be informed of protocols for reporting suspicious activities.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
																	The construction schedule should be available to any local policing forum as well as the South African Police Force.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
Access to the mine would increase the risk of vehicle and pedestrian accidents in the vicinity of the access point. Movement of construction vehicles and possible speeding by these vehicles have been raised as a concern. Large numbers of construction related traffic could thus have negative impacts on the daily living and movement patterns of the farmers especially where these vehicles would pass in close proximity to their dwellings or access internal roads on their properties.	Heavy vehicle movement	4	2	2	3	24	-	L	Construction material to be transported with road-worthy vehicles that are well maintained and a speed limit of 40 km/h to be maintained.	2	2	2	3	18	-	L	The contractor should communicate the construction schedule and vehicle movements to the neighbouring property owners. Implement a strict penalty fine system for speeding incidents .	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
The development of the proposed mine could increase the crime levels within the surrounding area thereby severely affected the quality of life of current property owners.	Safety and Security Risks	6	3	2	3	33	-	M	Strict security measures should be developed and implemented. Security personnel should be on site on a permanent basis.	2	2	2	3	18	-	L	As far as possible, the movement of construction workers should be confined to the work site to avoid any increased safety and security risks.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
																	Before construction commences, representatives from the local municipality and community-based organisations, as well as neighbouring residents should be informed of the details of the construction company, size of the workforce and construction schedules.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
																	Construction workers should be easily identified as part of the construction team by e.g. wearing specific clothing and/or identity tags.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
																	Ensure adequate housing facilities for outside workers and transportation to and from the construction site.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
																	Criminal incidents should be communicated to the workforce and mine Employees and Employees and contractors to ensure a general awareness of the safety situation in the area.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.

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																	Operational safety risks should be addressed as part of the Occupational Health and Safety Act (1993).	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
A major concern in terms of public health is HIV/Aids as it is known that the disease spreads with the influx of outside workers to an area. Young male mineworkers could be classified as those in the "high risk" categories. If a significant proportion of the construction workforce are affected by HIV/Aids, it can lead to lower productivity, increased health related expenses and negative implications to replace workers.	Health Impacts	6	4	3	4	52	-	M	The general health of construction workers should be monitoring on an on-going basis.	4	3	2	3	27	-	L	Local labour should be employed as far as possible to avoid additional pressure of outsiders on the existing services.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
									Develop an HIV/AIDS awareness and support programme, with specific focus on those in and nearby the construction site.								HIV/Aids awareness campaigns should be focused on contract workers.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
																	First aid supplies should be available at various points at the construction site.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
																	Emergency and health services should be notified of the construction schedule and peak construction periods.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
The impact on the sense of place relates to the change in the landscape character and visual impact of the proposed mine during the construction phase.	Sense of Place	8	3	2	4	52	-	M	Visual impacts of the construction site, however, are temporary and should respond to mitigation.	4	2	2	3	24	-	L	The construction site should be kept litter free.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
																	Site rehabilitation on certain sections of the site should occur as soon as the construction process allows.	During construction phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in construction costs.
During the construction phase, general construction activities create different types of noise, such as noise associated with the movement of construction vehicles, the reverse indicator of trucks, the loading or movement of material and activities of workers at a construction site such as shouting, loud music (especially after hours) and so forth. These types of noises would have different nuisance impacts on those within the construction site and on nearby dwellings.	Noise	8	2	2	4	48	-	M	At this stage construction activities are planned to take place during daytime period only. This may change to a 24 hour 7 day a week approach depending on the outcome of the BFS.	4	2	1	2	14	-	L	Where noise becomes a nuisance, management measures will be investigated and implemented to address these.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									The use of noise barriers or earth berms and screening of noise at individual source where an activity can be clearly heard at the boundary will be implemented.								Machinery with low noise levels and maintained in a good order to be used and to comply with the IFC's Health and Safety Regulations.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Use mufflers on engine exhausts and compressor components, and vibration isolation for mechanical equipment.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Damage to property as a result of blast and vibration.	Blasting and vibration	10	2	2	4	56	-	M	Undertake a detailed blast and vibration assessment and crack survey prior to each blasting event.	4	2	1	2	14	-	L	Notify neighbouring land owners of a blasting event prior to such an event taking place (at least 2 days prior).	During construction phase	Environmental Control Officer	Included in construction costs.
																	Undertake a crack survey before and after a blasting event.	During construction phase	Environmental Control Officer	Included in construction costs.
Issues related to HERITAGE																				
Evidence of 2 sites of archaeological/cultural importance occur within the greater project area. Potential impacts on these must be minimised.	Graves/ grave yards	8	4	2	3	42	-	M	Should it be directly impacted on by the mine the graves may be exhumed and the human remains reburied. Before this may happen the necessary advertising, possible social consultation and permitting applications should be implemented. Should the graves however not be	4	4	2	2	20	-	L	It is possible that more cultural sites may be present. Also the subterranean presence of archaeological and/or historical sites, features or artefacts are always a distinct possibility. Care should also be taken when development work commences that if any more artefacts	Ongoing	Environmental Control Officer	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
									impacted on directly, there will definitely be a secondary impact. The graves should then be fenced in a management plan for the preservation and maintenance thereof be written.								are uncovered, a qualified archaeologist be called in to investigate.			
Issues related to WETLANDS																				
Two hillslope seepage wetlands will be directly impacted by the proposed surface infrastructure layout and will likely be completely and permanently destroyed during site clearing activities preceding construction. The affected wetlands are wetland units 3 and 4 (Figure 13). In addition, the existing gravel road crossing over wetland unit 2 will be upgraded as the main access road to the mine shaft. Upgrading and widening of this road will result in further wetland loss.All of the affected wetlands have been significantly impacted by agricultural activities, especially wetland unit 4 which has been completely cultivated, limiting the associated loss of biodiversity. The affected wetlands are also all isolated systems that are not directly linked to any drainage network. The impact will thus be restricted to the wetlands in question.	Site Clearance	6	1	5	5	60	-	M	The impact could be avoided by adjusting the surface infrastructure layout to exclude all wetland areas from the development footprint. However, this is considered unlikely. Alternatively, the loss of these wetlands could be offset through the implementation of a wetland management and rehabilitation plan for the remaining wetlands within the study area that aims to improve the condition of these wetlands and the role they play in especially biodiversity support, which is considered to be the most important function of the wetlands on site.	4	5	1	5	50	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental Control Officer	Included in construction costs.
Disturbances to the soils within the wetland catchments during vegetation clearing and site preparation could result in increased sediment movement off the site and into downslope wetland areas. However, as most of the site is already cultivated and the soils are regularly disturbed through ploughing activities, the construction activities are unlikely to significantly increase sediment movement unless undertaken during the rainy season	Site Clearance	6	5	1	3	36	-	M	Earthworks and vegetation clearing activities on site should ideally be undertaken during the dry season to minimize sediment transport during surface runoff following rainfall events. Earthworks and vegetation clearing activities should also be phased to minimize the extent of disturbed areas at any one time. Temporary toe berms should be installed on the downslope side of large bare soils areas and any soil stockpiles to trap sediments eroded odd these areas. The site should be monitored for erosion and sediment movement during and after rainfall events and suitable interventions put in place to repair any erosion damage and to prevent further sediment movement off the site. Following completion of construction activities, bare soil areas should be ripped, scarified, landscaped and re-vegetated as soon as possible. Re-vegetated areas should be monitored to ensure successful re-establishment of vegetation. Ideally, 70 % cover should be obtained after 3 months. A mixture of indigenous grass species should be used.	4	5	1	2	20	-	L	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental Control Officer	Included in construction costs.
Clearing of vegetation and soil disturbance could lead to mobilisation of sediments and dust which may be	Site Clearance	6	4	2	4	48	-	M	Implementation of all mitigation measures listed above for erosion control and water quality	6	4	1	2	22	-	L	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental Control Officer	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
blown or washed into receiving water bodies (wetlands and pans) within the vicinity. This would lead to increased turbidity (decreased water quality) which may have a negative impact on aquatic fauna. When the suspended solids (soil particles) settle out on the substrates in the wetlands, it leads to further deterioration in habitat quality. Sediments are colonised by *Typha* reeds or alien weeds, causing a decline in habitats during the wet season. This may result in a decline in overall biodiversity. Water quality impacts, resulting from spills, leaks, dust or dirty stormwater, will result in the loss of taxa that may be sensitive to water quality. In addition, altered hydrology, in terms of timing, duration and quantity of water will affect habitat availability. Reduced flows or shorter periods of inundation may reduce both the availability and suitability of habitats and will have an impact on aquatic fauna.									management will reduce the severity of impacts. An emergency preparedness plan should be compiled and implemented in the event of major spills (e.g. fuel, mine water or sewage spill). Dust suppression measures should be used. A biomonitoring plan should be compiled and implemented and should include assessments of water quality, habitats and aquatic macroinvertebrates. Sampling sites further down in the Doring River catchment should be included to assess impacts on downstream ecosystems. All mitigation measures relating to water quality should be audited with prompt follow-up action taken in the event of non-compliances											
The existing gravel road crossing over wetland unit 2 will be upgraded as the assumed main access road to the mine shaft. Upgrading and widening of this road will result in further wetland loss. Two hillslope seepage wetlands will be directly impacted by the proposed surface infrastructure layout and will likely be completely and permanently destroyed during site clearing activities preceding construction. The affected wetlands are wetland units 3 and 4	Loss of wetland habitat	6	5	1	5	60	-	M	The loss of these wetlands could be offset through the implementation of a wetland management and rehabilitation plan for the remaining wetlands within the study area that aims to improve the condition of these wetlands and the role they play in especially biodiversity support, which is considered to be the most important function of the wetlands on site.	4	5	1	5	50	-	M	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A
Disturbances to the soils within the wetland catchments during vegetation clearing and site preparation could result in increased sediment movement off the site and into down slope wetland areas. However, as most of the site is already cultivated and the soils are regularly disturbed through ploughing activities, the construction activities are unlikely to significantly increase sediment movement unless undertaken during the rainy season.	Increased sediment movement	6	5	1	3	36	-	M	Earthworks and vegetation clearing activities on site should ideally be undertaken during the dry season to minimize sediment transport during surface runoff following rainfall events. Earthworks and vegetation clearing activities should also be phased to minimize the extent of disturbed areas at any one time.	4	5	1	1	10	-	L	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A
																	Markers and pegs will be erected and maintained along the boundaries of the working areas, access roads, haul roads and paths before commencing any work. If proved insufficient for control, these shall be replaced by fencing.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	The contractor will ensure that all activities, material and equipment storage and personnel movement take place within the designated area.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Employees and contractors will complete induction on the EMP, Environmental Awareness Plan and Emergency Response Plan prior to construction activities being undertaken. All workers will be made	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
																	aware of the penalty systems for non compliance.			
																	Draw up a procedure clearly reflecting the method and phases of clearance of vegetation only in areas where construction will take place.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Temporary toe berms should be installed on the down slope side of large bare soils areas and any soil stockpiles to trap sediments eroded odd these areas.								The topsoil material will be stockpiled in a designated area for rehabilitation at closure/decommissioning.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	The site should be monitored for erosion and sediment movement during and after rainfall events and suitable interventions put in place to repair any erosion damage and to prevent further sediment movement off the site.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
During construction of the surface infrastructure large areas will be covered with impermeable surfaces such as buildings, roads, paving etc., significantly increasing the generation of surface run-off from these areas, as well as the velocity of surface runoff. Infiltration and recharge of the shallow perched water table within the soil profile will decrease as a result. These changes within the runoff characteristics of the landscape will translate into changes to the supporting hydrology of the wetlands and lead to further degradation of receiving wetlands through increasing flood peaks and decreasing low flows, resulting in changed seasonality of the affected wetlands. Wetland units 5 and a further pan immediately to the north of the infrastructure area (but outside the study area) are likely to be most affected.	Altered Hydrology	6	2	2	5	50	-	M	To minimize the changes to the runoff characteristics of the landscape, the extent of hardened surfaces on site should be kept as small as possible. In addition, connectivity between areas of hardened surfaces should be minimized and such areas should ideally be separated by vegetated strips that encourage infiltration of rainwater into the soil. Care should however be taken to only allow clean water to infiltrate the soils. Dirty water areas should ideally be bunded and all runoff from these areas should be captured and used within the mining operations, with zero discharge of dirty water.	6	2	1	3	27	-	L	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998.	Prior to construction	Environmental Control Officer/ Project Manager	Included in construction costs.
																	Maintain and monitor the implementation of dirty water separation infrastructure.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
																	Construct the required erosion protection measures.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Clearing of vegetation and soil disturbance could lead to mobilisation of sediments and dust which may be blown or washed into receiving water bodies (wetlands and pans) within the vicinity. This would lead to increased turbidity (decreased water quality) which may have a negative impact on aquatic fauna. When the suspended solids (soil particles) settle out on the substrates in the wetlands, it leads to further deterioration in habitat quality. Sediments are colonised by Typha reeds or alien weeds, causing a decline in habitats during the wet season. This may result in a decline in overall biodiversity. Water quality impacts, resulting from spills, leaks,	Decline in habitats and biota	6	4	2	4	48	-	M	The loss of these wetlands could be offset through the implementation of a wetland management and rehabilitation plan for the remaining wetlands within the study area that aims to improve the condition of these wetlands and the role they play in especially biodiversity support, which is considered to be the most important function of the wetlands on site.	6	4	1	2	22	-	L	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 1: FOOTPRINT CLEARANCE AND ROAD ESTABLISHMENT																				
dust or dirty storm water, will result in the loss of taxa that may be sensitive to water quality. In addition, altered hydrology, in terms of timing, duration and quantity of water will affect habitat availability. Reduced flows or shorter periods of inundation may reduce both the availability and suitability of habitats and will have an impact on aquatic fauna.																				
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-3: Impacts and Management Measures for Construction Phase Activities: Establishment of Infrastructure.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 2: ESTABLISHMENT OF INFRASTRUCTURE																				
Issues related to GEOLOGY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Small volumes of groundwater inflow, some dewatering of Karoo aquifer	Infrastructure establishment	6	2	2	4	40	-	M	Grouting of shafts and decline will minimise inflows and consequent aquifer dewatering	6	2	2	1	10	-	L	Grout side walls of all shafts and decline as construction proceeds downward, monitor water levels	Ongoing	Civil/Construction Engineer	Included in construction costs.
Issues related to HYDROLOGY																				
Spillages on site may lead to surface water pollution.	Heavy vehicle movement	8	4	2	4	56	-	M	Employees and contractors will be educated to make them aware of the necessity to prevent spillages through the implementation of good housekeeping practices. The management of chemicals and hydrocarbons must form part of the emergency preparedness and response programme.	4	4	2	3	30	-	M	Employees and contractors will complete induction on the EMP, Environmental Awareness Plan and Emergency Response Plan prior to construction activities being undertaken. All workers will be made aware of the penalty systems for non compliance. Employees and contractors will complete induction prior to construction activities being undertaken and the Environmental Awareness Plan and Emergency Response Plan must be implemented.	During construction phase During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs. Included in construction costs.
Construction activities will influence the natural drainage patterns.	Drainage patterns	8	2	2	4	48	-	M	Reassessment of the placement of clean and dirty water systems as implemented during the footprint clearance phase of construction. Should it be necessary new clean and dirty water systems must be put in place where others are not functioning properly.	4	3	1	2	16	-	L	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998. Implement a management and maintenance programme for clean and dirty water systems to stay fully operational. Dirty water runoff conveyance and storage systems at the mine will be controlled by structures and control measures prescribed in the Stormwater Management Plan.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Loss of fertile topsoil layer	Construction of power station and associated infrastructure	1	5	8	5	70	-	H	Preserve as large a area as possible/strip if possible	1	5	6	4	48	-	M	Implement mitigation in accordance with the mitigation measures proposed.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Soil compaction	Construction of infrastructure	2	4	6	4	48	-	M	Keep infrastructure localized to reduce footprint	2	4	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Soil erosion	Vegetation removal during construction and operations	1	5	8	4	56	-	M	Keep as much original landcover/topsoil as possible	1	3	4	4	32	-	M	Implement mitigation in accordance with the mitigation measures proposed.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Chemical soil pollution	Spillage and seepage of wastewater	2	5	8	5	75	-	H	Proper chemical waste management	1	3	4	4	32	-	M	Implement mitigation in accordance with the mitigation measures proposed.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Change in natural landscape	Ground clearance and waste disposal	1	5	6	5	60	-	M	Keep infrastructure to a minimum to reduce footprint	1	5	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
The construction of infrastructure will alter the land use land capability of the area.	Infrastructure establishment	6	2	2	4	40	-	M	Construction activities should be limited to designated areas. No related activities may be undertaken	2	2	1	2	10	-	L	Develop a plan clearly defining the construction area. Workers should complete induction prior to	During construction	Environmental Control Officer/ Project	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 2: ESTABLISHMENT OF INFRASTRUCTURE																				
									outside of the designated areas. The boundaries will be fenced off to prevent unnecessary impacts on surrounding land capabilities. All fences will be routinely inspected and maintained. The surrounding land (not used for mining or operational purposes) will be kept in the state it was prior to the mining related construction activities.								construction activities being undertaken.		Manager/Health & Safety Officer	
Issues related to FAUNA AND FLORA																				
Direct impacts on flora species of conservation importance.	Infrastructure establishment	8	5	4	5	85	-	H	Exclude sensitive areas and provide protection for nearby sensitive areas.	8	5	4	1	17	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Ecologist/Proponent	Included in construction costs.
Direct impacts on fauna species of conservation importance.	Infrastructure establishment	8	5	4	5	85	-	H	Exclude sensitive areas and provide protection for nearby sensitive areas.	8	5	4	1	17	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Ecologist/Proponent	Included in construction costs.
Loss or disruption of mammal migration routes.	Infrastructure establishment	6	5	2	5	65	-	H	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; allow for natural crossings where possible; control movement of personnel; and limit speeds of vehicles.	6	5	2	3	39	-	M	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Direct impacts on sensitive/pristine habitat types.	Infrastructure establishment	8	5	3	2	32	-	M	Exclude sensitive areas and provide protection for nearby sensitive areas; limit the spread of impacts to nearby sensitive areas.	8	5	3	1	16	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer	Included in construction costs.
Direct impacts on common fauna species of the study area.	Infrastructure establishment	4	4	2	4	40	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; and limit speeds of vehicles.	4	4	2	3	30	-	M	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Faunal interaction with structures, servitudes and/or personnel.	Infrastructure establishment	4	4	3	4	44	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; and limit speeds of vehicles.	4	4	2	4	40	-	M	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Impacts on surrounding habitat/species, including ecosystem functioning.	Infrastructure establishment	6	4	2	3	36	-	M	Limit spread of impacts to adjacent areas and provide adequate protection for nearby sensitive areas.	6	4	2	2	24	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Health & Safety Officer	Included in construction costs.
Issues related to AIR QUALITY																				
Fugitive dust emissions as a result of the movement of vehicles and removal of material for construction purposes will have a negative impact in terms of visual characteristics/air quality.	Heavy vehicle movement	6	2	2	4	40	-	M	The impact during construction phase is limited to a short period only. All mine haul roads will be treated with dust suppressant chemicals or watered in order to reduce the impact of dust on the aesthetics of the surrounding area.	2	2	2	3	18	-	L	Establish a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	Ongoing	Environmental Control Officer	Included in construction costs.
Generation of windblown dust	Exposure of underlying soil	4	2	2	3	24	-	L	Recover exposed land promptly, where possible.	2	2	2	3	18	-	L	Establish a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	Daily	Environmental Control Officer	Included in construction costs.
Issues related to NOISE																				
Noise will be generated as a result of the removal of vegetation,	Heavy vehicle movement	6	2	2	4	40	-	M	Construction activities will take place 24 hours a day.	4	2	2	3	24	-	L	Where noise becomes a nuisance, management measures will be	During construction phase	Environmental Control Officer/ Project	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 2: ESTABLISHMENT OF INFRASTRUCTURE																				
transportation and stockpiling of topsoil and subsoil's.																	investigated and implemented to address these.		Manager/Health & Safety Officer	
									The use of noise barriers or earth berms and screening of noise at individual source where an activity can be clearly heard at the boundary will be implemented.								Machinery with low noise levels and maintained in a good order to be used and to comply with the International Finance Corporation (IFC's) Health and Safety Regulations.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Use mufflers on engine exhausts and compressor components, and vibration isolation for mechanical equipment.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Issues related to TRAFFIC																				
Potential access road S239	Heavy vehicle movement	6	5	3	5	70	-	H	Geometry and surfacing of access road.	2	4	3	2	18	-	L	Construct road and surfacing.	Once plus maintenance	Project Manager	R100 000 - R4 000 000 every 5 - 10 years
Mine access	Heavy vehicle movement	2	4	2	4	32	-	M	Geometry and surfacing of mine access road.	2	4	2	2	16	-	L	Construct access.	Once plus maintenance	Project Manager	R10 000 - R1 000 000 every 5 - 10 years
Railway line level crossing	Heavy vehicle movement	8	5	3	5	80	-	H	Provide alternative access from R73.	3	4	1	2	16	-	L	Provide and construct alternative access.	Once plus maintenance	Project Manager	R10 000 - R1 000 000 every 5 - 10 years
									Provide road signs, flash lights, control booms & height restriction.	3	4	3	2	20	-	L	Provide road signs, flash lights, control booms & height restriction.	Once plus maintenance	Project Manager	R10 000 - R500 000 every 20 - 30 years
Public transport facility	Heavy vehicle movement	2	4	2	3	24	-	L	Provision of public transport facility	2	4	3	2	18	-	L	Construction of public transport facility.	Once plus maintenance	Project Manager	R10 000 - R500 000 every 10 - 15 years
Street lights at access intersection	Heavy vehicle movement	2	4	2	3	24	-	L	Provision of street lights	2	4	1	2	14	-	L	Provision of street lights.	Once plus maintenance	Project Manager	R10 000 - R500 000 every 10 - 15 years
Increase in vehicular movement on site will impact traffic volumes in the project area.	Heavy vehicle movement	8	4	4	5	80	-	H	As part of the construction requirements access roads will have to be established and/or upgraded.	6	4	3	3	39	-	M	Ensure that road construction meets the requirements of the operation.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Enforce speed limit restrictions on all vehicles.								Speed enforcement must be implemented (40 km/hr for heavy vehicles and 60 km/hr for light vehicles on gravel roads). Implement a strict penalty system for non-compliance.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Do not allow pedestrian pick-ups on any roads.								Implement a strict penalty system for non-compliance .	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Issues related to VISUAL																				
Fugitive dust emissions as a result of vegetation clearance and associated bare areas may have a negative impact in terms of air quality and visual characteristics.	Heavy vehicle movement	8	2	2	5	60	-	M	Effective dust management must be employed during the construction phase.	4	2	1	3	21	-	L	Draw up a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Visual impact of new infrastructure and influence on surrounding land owners.	All Infrastructure construction	8	3	2	4	52	-	M	Topsoil and subsoil stockpiles including soft spoils must be constructed in such a way as to serve as visual barriers for the surrounding landowners.	4	2	2	3	24	-	L	The top 500 mm of topsoil will be removed from the area where surface infrastructure is to be developed. The topsoil will be stored in berms along the perimeter of the site. Care will be taken to ensure that the berm is not located within any surface water channels. The berms will not exceed 5 m in height.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
									Structures that are required to be built form steel or concrete may be painted a dark natural tone fitting in with the surrounding environment.								Paint colours such as olive greens and tans can be used at base of buildings and top parts be lighter grey to blend in with skyline. Pure whites, blacks and bright colours should be avoided. Avoid shiny and bare metal.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 2: ESTABLISHMENT OF INFRASTRUCTURE																				
									An ecological approach to rehabilitation and vegetative screening measures, as opposed a horticultural approach to landscaping should be adopted. For example communities of indigenous plants enhance bio-diversity and blend well with existing vegetation. This ecological approach to landscaping costs significantly less to maintain than conventional landscaping methods and is more sustainable.								A registered landscape architect should be consulted for this purpose. Trees and shrubs can be used to screen structures and break stark contrasting lines if carefully planned and positioned.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Issues related to SOCIAL																				
No further impacts envisaged - impacts on social aspects are addressed in footprint clearance.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
Evidence of 2 sites of archaeological/cultural importance occur within the greater project area. Potential impacts on these must be minimised.	Graves/ grave yards	8	4	2	3	42	-	M	Should it be directly impacted on by the mine the graves may be exhumed and the human remains reburied. Before this may happen the necessary advertising, possible social consultation and permitting applications should be implemented. Should the graves however not be impacted on directly, there will definitely be a secondary impact. The graves should then be fenced in a management plan for the preservation and maintenance thereof be written.	4	4	2	2	20	-	L	It is possible that more cultural sites may be present. Also the subterranean presence of archaeological and/or historical sites, features or artefacts are always a distinct possibility. Care should also be taken when development work commences that if any more artefacts are uncovered, a qualified archaeologist be called in to investigate.	Ongoing	Environmental control officer	N/A
Issues related to WETLANDS																				
Two hillslope seepage wetlands will be directly impacted by the proposed surface infrastructure layout and will likely be completely and permanently destroyed during site clearing activities preceding construction. The affected wetlands are wetland units 3 and 4.	Loss of wetland habitat	6	5	1	5	60	-	M	The loss of these wetlands could be offset through the implementation of a wetland management and rehabilitation plan for the remaining wetlands within the study area that aims to improve the condition of these wetlands and the role they play in especially biodiversity support, which is considered to be the most important function of the wetlands on site.	4	5	1	5	50	-	M	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A
During construction of the surface infrastructure large areas will be covered with impermeable surfaces such as buildings, roads, paving etc., significantly increasing the generation of surface run-off from these areas, as well as the velocity of surface runoff. Infiltration and recharge of the shallow perched water table within the soil profile will decrease as a result. These changes within the runoff characteristics of the landscape will translate into changes to the supporting hydrology of the wetlands and lead to further degradation of receiving wetlands through increasing flood peaks and decreasing low flows, resulting in changed seasonality of the affected wetlands. Wetland units 5 and a	Altered Hydrology	6	2	2	5	50	-	M	To minimize the changes to the runoff characteristics of the landscape, the extent of hardened surfaces on site should be kept as small as possible. In addition, connectivity between areas of hardened surfaces should be minimized and such areas should ideally be separated by vegetated strips that encourage infiltration of rainwater into the soil. Care should however be taken to only allow clean water to infiltrate the soils. Dirty water areas should ideally be bunded and all runoff from these areas should be captured and used within the mining operations, with zero discharge of dirty water.	6	2	1	3	27	-	L	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998.	Prior to construction	Environmental Control Officer/ Project Manager	Included in construction costs.
																	Maintain and monitor the implementation of dirty water separation infrastructure.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
																	Construct the required erosion protection measures.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 2: ESTABLISHMENT OF INFRASTRUCTURE																				
further pan immediately to the north of the infrastructure area (but outside the study area) are likely to be most affected.																				
Clearing of vegetation and soil disturbance could lead to mobilisation of sediments and dust which may be blown or washed into receiving water bodies (wetlands and pans) within the vicinity. This would lead to increased turbidity (decreased water quality) which may have a negative impact on aquatic fauna. When the suspended solids (soil particles) settle out on the substrates in the wetlands, it leads to further deterioration in habitat quality. Sediments are colonised by Typha reeds or alien weeds, causing a decline in habitats during the wet season. This may result in a decline in overall biodiversity. Water quality impacts, resulting from spills, leaks, dust or dirty storm water, will result in the loss of taxa that may be sensitive to water quality. In addition, altered hydrology, in terms of timing, duration and quantity of water will affect habitat availability. Reduced flows or shorter periods of inundation may reduce both the availability and suitability of habitats and will have an impact on aquatic fauna.	Decline in habitats and biota	6	4	2	4	48	-	M	The loss of these wetlands could be offset through the implementation of a wetland management and rehabilitation plan for the remaining wetlands within the study area that aims to improve the condition of these wetlands and the role they play in especially biodiversity support, which is considered to be the most important function of the wetlands on site.	6	4	1	2	22	-	L	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-4: Impacts and Management Measures for Construction Phase Activities: Plant Construction

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 3: PLANT CONSTRUCTION																				
Issues related to GEOLOGY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
The different structures such as the plants, and related activities, office buildings, and workshops, resulted in a substantial alteration to the natural topography of the area. The primary impact is an aesthetic one and will be dealt with in the visual impact section.	Plant establishment	6	5	2	5	65	-	H	As far as practically possible the designs will ensure that the infrastructure blends into the surrounding environment where possible. The necessary clean and dirty water systems will be implemented and maintained to limit the impact on the topography.	2	4	1	3	21	-	L	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Maintain and monitor the implementation of dirty water separation.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
The possible development of subsidence and associated sinkholes due to the presence of dolomites.	Plant establishment	6	5	2	3	39	-	M	The mine will ensure that the necessary geotechnical investigations are undertaken to ensure that all infrastructure is constructed on stable foundations.	4	5	2	3	33	-	M	Emergency preparedness measures will be produced and available that deals specifically with possible subsidence.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Continuous monitoring of the surrounding area will be undertaken (weekly is proposed) to investigate the status of the area.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Should sinkholes occur, sinkholes will be filled up as soon as possible.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	The surface area will be re-vegetated with an appropriate species.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Issues related to GEOHYDROLOGY																				
The flow model indicates inflow volumes that could be expected in the order of 150 M^3/day per shaft and for the decline in the order of 200 M^3/day. The cumulative inflow volumes for the Construction Phase could be approximately 500 M^3/day. However, it should not affect groundwater users, as this is water from the deeper, fractured Witwatersrand aquifer.	Aquifer dewatering	6	2	2	4	40	-	M	The mine will have to include this in their future water balance planning. The quality of the mine water would not allow for direct discharge in the environment. Grouting of shafts and decline will stop inflows to occur and subsequent aquifer dewatering It is important to identify water-bearing zones well in advance rather than mining into them. For this reason a suitable cover drilling program is advised for all development into virgin ground. It is also important that cover drilling consist of both percussion and diamond drilling. An assessment of the fracturing in the core, even if no water is intersected, is important as it will provide data on the fracture densities associated with potential water zones	6	2	2	2	20	-	L	Maintain and monitor the implementation of dirty water separation infrastructure.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Small/negligible groundwater contamination	Plant establishment	2	2	1	2	10	-	L	Care must be taken to prevent oil/grease spillages, use only dedicated workshops	2	2	1	1	5	-	L	Use only dedicated working areas	During construction and operational phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction and operational costs.
Issues related to HYDROLOGY																				
Plant establishment activities will cause soil erosion to occur, and subsequent sediment transport and siltation of water courses.	Erosion	8	2	1	5	55	-	M	Temporary attenuation dams must be constructed downstream of the proposed area if construction will occur during the wet season. This	4	2	1	3	21	-	L	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998.	Prior to construction	Environmental Control Officer/ Project Manager	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 3: PLANT CONSTRUCTION																				
									measure is required to mitigate the sediment transport and erosion impact.								Maintain and monitor the implementation of dirty water separation infrastructure.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
																	Construct the required erosion protection measures.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Spillages of construction materials on site may lead to surface water pollution.	Heavy vehicle movement	8	4	2	4	56	-	M	Employees and contractors will be educated to make them aware of the necessity to prevent spillages through the implementation of good housekeeping practices.	4	4	2	3	30	-	M	Employees and contractors will complete induction on the EMP, Environmental Awareness Plan and Emergency Response Plan prior to construction activities being undertaken. All workers will be made aware of the penalty systems for non compliance.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									The management of chemicals and hydrocarbons must form part of the emergency preparedness and response programme.								Employees and contractors will complete induction prior to construction activities being undertaken and the Environmental Awareness Plan and Emergency Response Plan must be implemented.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Construction activities will influence the natural drainage patterns.	Drainage patterns	8	2	2	4	48	-	M	Reassessment of the placement of clean and dirty water systems as implemented during the footprint clearance phase of construction. Should it be necessary new clean and dirty water systems must be put in place where others are not functioning properly.	4	3	1	2	16	-	L	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998. Implement a management and maintenance programme for clean and dirty water systems to stay fully operational.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Loss of fertile topsoil layer	Construction of power station and associated infrastructure	1	5	8	5	70	-	H	Preserve as large a area as possible/strip if possible	1	5	6	4	48	-	M	Implement mitigation in accordance with the mitigation measures proposed.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Soil compaction	Construction of infrastructure	2	4	6	4	48	-	M	Keep infrastructure localized to reduce footprint	2	4	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Soil erosion	Vegetation removal during construction and operations	1	5	8	4	56	-	M	Keep as much original landcover/topsoil as possible	1	3	4	4	32	-	M	Implement mitigation in accordance with the mitigation measures proposed.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
The construction of infrastructure will alter the land use land capability of the area.	Plant establishment	6	2	2	4	40	-	M	Construction activities should be limited to designated areas. No related activities may be undertaken outside of the designated areas. The boundaries will be fenced off to prevent unnecessary impacts on surrounding land capabilities. All fences will be routinely inspected and maintained. The surrounding land (not used for mining or operational purposes) will be kept in the state it was prior to the mining related construction activities.	2	2	1	2	10	-	L	Develop a plan clearly defining the construction area. Workers should complete induction prior to construction activities being undertaken.	During construction	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Issues related to FAUNA AND FLORA																				
Direct impacts on flora species of conservation importance.	Plant establishment	8	5	4	5	85	-	H	Exclude sensitive areas and provide protection for nearby sensitive areas.	8	5	3	1	16	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Ecologist/Proponent	Included in construction costs.
Direct impacts on fauna species of conservation importance.	Plant establishment	8	5	4	5	85	-	H	Exclude sensitive areas and provide protection for nearby sensitive areas.	8	5	3	1	16	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Ecologist/Proponent	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 3: PLANT CONSTRUCTION																				
Loss or disruption of mammal migration routes.	Plant establishment	6	5	2	5	65	-	H	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; allow for natural crossings where possible; control movement of personnel; and limit speeds of vehicles.	6	5	2	2	26	-	L	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Direct impacts on sensitive/pristine habitat types.	Plant establishment	8	5	3	3	48	-	M	Exclude sensitive areas and provide protection for nearby sensitive areas; limit the spread of impacts to nearby sensitive areas.	8	5	3	2	32	-	M	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer	Included in construction costs.
Direct impacts on common fauna species of the study area.	Plant establishment	4	4	2	5	50	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; and limit speeds of vehicles.	4	4	2	3	30	-	M	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Faunal interaction with structures, servitudes and/or personnel.	Plant establishment	4	5	3	4	48	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; and limit speeds of vehicles.	4	4	2	3	30	-	M	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Impacts on surrounding habitat/species, including ecosystem functioning.	Plant establishment	6	4	2	3	36	-	M	Limit spread of impacts to adjacent areas and provide adequate protection for nearby sensitive areas.	6	4	2	2	24	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Health & Safety Officer	Included in construction costs.
Issues related to AIR QUALITY																				
Fugitive dust emissions as a result of the movement of vehicles and removal of material for construction purposes will have a negative impact in terms of visual characteristics/air quality.	Heavy vehicle movement	6	2	2	4	40	-	M	The impact during construction phase is limited to a short period only. All mine haul roads will be treated with dust suppressant chemicals or watered in order to reduce the impact of dust on the aesthetics of the surrounding area.	2	2	2	3	18	-	L	Establish a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	Ongoing	Environmental Control Officer	Included in construction costs.
Generation of windblown dust	Exposure of underlying soil	4	2	2	3	24	-	L	Recover exposed land promptly, where possible.	2	2	2	3	18	-	L	Establish a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	Daily	Environmental Control Officer	Included in construction costs.
Issues related to NOISE																				
Noise will be generated as a result of plant establishment.	Heavy vehicle movement	6	2	2	4	40	-	M	Construction activities will take place 24 hours a day. The use of noise barriers or earth berms and screening of noise at individual source where an activity can be clearly heard at the boundary will be implemented.	4	2	2	3	24	-	L	Where noise becomes a nuisance, management measures will be investigated and implemented to address these. Machinery with low noise levels and maintained in a good order to be used and to comply with the IFC's Health and Safety Regulations. Use mufflers on engine exhausts and compressor components, and vibration isolation for mechanical equipment.	During construction phase During construction phase During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer Environmental Control Officer/ Project Manager/Health & Safety Officer Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs. Included in construction costs. Included in construction costs.
Issues related to TRAFFIC																				
Increase in vehicular movement on site will impact traffic volumes in the project area.	Heavy vehicle movement	8	4	4	5	80	-	H	As part of the construction requirements access roads will have to be established and/or upgraded. Enforce speed limit restrictions on all vehicles.	6	4	3	3	39	-	M	Ensure that road construction meets the requirements of the operation. Speed enforcement must be implemented (40 km/hr for heavy vehicles and 60 km/hr for light vehicles on gravel roads). Implement a strict penalty system for non-compliance.	During construction phase During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs. Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 3: PLANT CONSTRUCTION																				
									Do not allow pedestrian pick-ups on any roads.								Implement a strict penalty system for non-compliance .	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
Issues related to VISUAL																				
Fugitive dust emissions as a result of vegetation clearance and associated bare areas may have a negative impact in terms of air quality and visual characteristics.	Heavy vehicle movement	8	2	2	5	60	-	M	Effective dust management must be employed during the construction phase.	4	2	1	3	21	-	L	Draw up a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Visual impact of plant infrastructure and influence on surrounding land owners.	All Infrastructure construction	8	3	2	4	52	-	M	Topsoil and subsoil stockpiles including soft spoils must be constructed in such a way as to serve as visual barriers for the surrounding landowners.	4	2	2	3	24	-	L	The top 500 mm of topsoil will be removed from the area where surface infrastructure is to be developed. The topsoil will be stored in berms along the perimeter of the site. Care will be taken to ensure that the berm is not located within any surface water channels. The berms will not exceed 5 m in height.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
									Structures that are required to be built form steel or concrete may be painted a dark natural tone fitting in with the surrounding environment.								Olive greens and tans can be used at base of buildings and top parts be lighter grey to blend in with skyline. Pure whites, blacks and bright colours should be avoided. Avoid shiny and bare metal.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
									An ecological approach to rehabilitation and vegetative screening measures, as opposed a horticultural approach to landscaping should be adopted. For example communities of indigenous plants enhance bio-diversity and blend well with existing vegetation. This ecological approach to landscaping costs significantly less to maintain than conventional landscaping methods and is more sustainable.								A registered landscape architect should be consulted for this purpose. Trees and shrubs can be used to screen structures and break stark contrasting lines if carefully planned and positioned.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
Issues related to SOCIAL																				
No further impacts envisaged - impacts on social aspects are addressed in footprint clearance.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
Evidence of 2 sites of archaeological/cultural importance occur within the greater project area. Potential impacts on these must be minimised.	Graves/ grave yards	8	4	2	3	42	-	M	Should it be directly impacted on by the mine the graves may be exhumed and the human remains reburied. Before this may happen the necessary advertising, possible social consultation and permitting applications should be implemented. Should the graves however not be impacted on directly, there will definitely be a secondary impact. The graves should then be fenced in a management plan for the preservation and maintenance thereof be written.	4	4	2	2	20	-	L	It is possible that more cultural sites may be present. Also the subterranean presence of archaeological and/or historical sites, features or artefacts are always a distinct possibility. Care should also be taken when development work commences that if any more artefacts are uncovered, a qualified archaeologist be called in to investigate.	Ongoing	Environmental control officer	N/A
Issues related to WETLANDS																				
Two hillslope seepage wetlands will be directly impacted by the proposed surface infrastructure layout and will likely be completely and permanently destroyed during site clearing activities preceding construction. The affected wetlands are wetland units 3 and 4.	Loss of wetland habitat	6	5	1	5	60	-	M	The loss of these wetlands could be offset through the implementation of a wetland management and rehabilitation plan for the remaining wetlands within the study area that aims to improve the condition of these wetlands and the role they play in	4	5	1	5	50	-	M	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 3: PLANT CONSTRUCTION																				
									especially biodiversity support, which is considered to be the most important function of the wetlands on site.											
Disturbances to the soils within the wetland catchments during vegetation clearing and site preparation could result in increased sediment movement off the site and into down slope wetland areas. However, as most of the site is already cultivated and the soils are regularly disturbed through ploughing activities, the construction activities are unlikely to significantly increase sediment movement unless undertaken during the rainy season.	Increased sediment movement	6	5	1	3	36	-	M	Earthworks and vegetation clearing activities on site should ideally be undertaken during the dry season to minimize sediment transport during surface runoff following rainfall events.	4	5	1	1	10	-	L	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A
																	Markers and pegs will be erected and maintained along the boundaries of the working areas, access roads, haul roads and paths before commencing any work. If proved insufficient for control, these shall be replaced by fencing.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Earthworks and vegetation clearing activities should also be phased to minimize the extent of disturbed areas at any one time.								The contractor will ensure that all activities, material and equipment storage and personnel movement take place within the designated area.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Employees and contractors will complete induction on the EMP, Environmental Awareness Plan and Emergency Response Plan prior to construction activities being undertaken. All workers will be made aware of the penalty systems for non compliance.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Draw up a procedure clearly reflecting the method and phases of clearance of vegetation only in areas where construction will take place.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
									Temporary toe berms should be installed on the down slope side of large bare soils areas and any soil stockpiles to trap sediments eroded odd these areas.								The topsoil material will be stockpiled in a designated area for rehabilitation at closure/decommissioning.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
																	The site should be monitored for erosion and sediment movement during and after rainfall events and suitable interventions put in place to repair any erosion damage and to prevent further sediment movement off the site.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in construction costs.
During construction of the surface infrastructure large areas will be covered with impermeable surfaces such as buildings, roads, paving etc., significantly increasing the generation of surface run-off from these areas, as well as the velocity of surface runoff. Infiltration and recharge of the shallow perched water table within the soil profile will decrease as a result. These changes within the runoff characteristics of the landscape will translate into changes to the supporting hydrology of the wetlands and lead to further degradation of receiving wetlands through increasing flood peaks and decreasing low flows,	Altered Hydrology	6	2	2	5	50	-	M	To minimize the changes to the runoff characteristics of the landscape, the extent of hardened surfaces on site should be kept as small as possible. In addition, connectivity between areas of hardened surfaces should be minimized and such areas should ideally be separated by vegetated strips that encourage infiltration of rainwater into the soil. Care should however be taken to only allow clean water to infiltrate the soils. Dirty water areas should ideally be bunded and all runoff from these areas should be captured and used within the mining operations, with zero discharge of dirty water.	6	2	1	3	27	-	L	Design and construct all structures to ensure clean and dirty water separation as stipulated in Regulation 704 of the National Water Act, 1998.	Prior to construction	Environmental Control Officer/ Project Manager	Included in construction costs.
																	Maintain and monitor the implementation of dirty water separation infrastructure.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.
																	Construct the required erosion protection measures.	During construction phase	Environmental Control Officer/ Project Manager	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 3: PLANT CONSTRUCTION																				
resulting in changed seasonality of the affected wetlands. Wetland units 5 and a further pan immediately to the north of the infrastructure area (but outside the study area) are likely to be most affected.																				
Clearing of vegetation and soil disturbance could lead to mobilisation of sediments and dust which may be blown or washed into receiving water bodies (wetlands and pans) within the vicinity. This would lead to increased turbidity (decreased water quality) which may have a negative impact on aquatic fauna. When the suspended solids (soil particles) settle out on the substrates in the wetlands, it leads to further deterioration in habitat quality. Sediments are colonised by Typha reeds or alien weeds, causing a decline in habitats during the wet season. This may result in a decline in overall biodiversity. Water quality impacts, resulting from spills, leaks, dust or dirty storm water, will result in the loss of taxa that may be sensitive to water quality. In addition, altered hydrology, in terms of timing, duration and quantity of water will affect habitat availability. Reduced flows or shorter periods of inundation may reduce both the availability and suitability of habitats and will have an impact on aquatic fauna.	Decline in habitats and biota	6	4	2	4	48	-	M	The loss of these wetlands could be offset through the implementation of a wetland management and rehabilitation plan for the remaining wetlands within the study area that aims to improve the condition of these wetlands and the role they play in especially biodiversity support, which is considered to be the most important function of the wetlands on site.	6	4	1	2	22	-	L	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-5: Impacts and Management Measures for Construction Phase Activities: Waste Handling.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 4: WASTE HANDLING																				
Issues related to GEOLOGY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Handling of waste and transport of building material can cause various types of spills (domestic waste, sewage water, hydrocarbons) which can infiltrate and contaminate of the groundwater system.	Waste Handling	4	4	1	4	36	-	M	A dedicated area for the placement of waste skips must be determined prior to operational activities, and the area will to be cemented. Allowance for keeping clean water run-off away from the skip area through the correct bunding design.	2	4	1	2	14	-	L	The mine will adopt a cradle-to-grave approach to ensure that the waste is removed and disposed of in a prescribed/correct manner, and must be stored in a designated area as part of the waste management strategy. Waste generated will be collected and disposed of in a licensed waste facility and a copy of the valid waste disposal permits will be kept on site.	Ongoing	Environmental control officer	Included in construction & operation costs
Contamination from existing Merriespruit TSF	Waste rock dumping	2	4	1	2	14	-	L	Compacting of base of waste rock dump, monitoring of groundwater quality	2	4	1	0	0	-	L	Compact base of waste rock dump, monitor groundwater quality.	Once-off	Environmental control officer	Included in construction & operation costs
																	Monitor groundwater quality.	Quarterly	Environmental control officer	Included in construction & operation costs
Issues related to HYDROLOGY																				
The generation of waste may lead to surface water contamination.	Waste generation	8	4	2	4	56	-	M	Surface water quality monitoring networks must be set up prior to the construction phase so that any surface water quality issues can be addressed accordingly.	6	4	2	3	36	-	M	Surface water quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental control officer	R 91 000.00
																	Quarterly surface water monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Disposal of any type of waste to an area with a waste skip can impact the hydrological environment.	Dirty water run-off and seepage	8	2	2	5	60	-	M	A dedicated area for the placement of waste skips must be determined prior to operational activities, and the area will to be cemented. Allowance for keeping clean water run-off away from the skip area through the correct bunding design.	4	2	1	2	14	-	L	The mine will adopt a cradle-to-grave approach to ensure that the waste is removed and disposed of in a prescribed/correct manner, and must be stored in a designated area as part of the waste management strategy. Waste generated will be collected and disposed of in a licensed waste facility and a copy of the valid waste disposal permits will be kept on site.	Ongoing	Environmental control officer	Included in construction & operation costs
Builders rubble, packaging and other waste generated in the construction process could become a source of pollution for water resources.	Builing waste	2	2	2	5	30	-	M	Builder contracts should include relevant stipulations regarding the storage and removal of building waste.	2	2	1	2	10	-	L	Develop a management plan for the handling of all associated building waste and make it a contractual requirement.	Once-off	Environmental control officer	Included in construction costs.
Fuels and/or toxic materials could be spilled and pollute local water resources.	Spillage	6	3	3	3	36	-	M	Measures should be in place to contain any spills and allow safe collection and disposal of waste.	4	3	2	2	18	-	L	The mine will adopt a cradle-to-grave approach to ensure that the waste is removed and disposed of in a prescribed/correct manner, and must be stored in a designated area as part of the waste management strategy.	Ongoing	Environmental control officer	Included in construction & operation costs
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 4: WASTE HANDLING																				
Chemical soil pollution	Spillage and seepage of wastewater	2	5	8	5	75	-	H	Proper chemical waste management	1	3	4	4	32	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in construction & operation costs
Change in natural landscape	Ground clearance and waste disposal	1	5	6	5	60	-	M	Keep infrastructure to a minimum to reduce footprint	1	5	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in construction & operation costs
The generation of waste may lead to soil contamination.	Waste generation	8	2	2	5	60	-	M	Monitoring of waste generation and soil contamination must be implemented and maintained.	4	2	2	3	24	-	L	In the event that soil contamination occurs, immediate soil clean-up should be undertaken.	In the event of occurrence	Environmental control officer	To be determined - depending on severity of incident
Issues related to FAUNA AND FLORA																				
Direct impacts on flora species of conservation importance.	Waste Handling	8	5	4	4	68	-	H	Exclude sensitive areas and provide protection for nearby sensitive areas.	8	5	4	1	17	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Ecologist/Proponent	Included in construction costs.
Direct impacts on fauna species of conservation importance.	Waste Handling	8	5	4	4	68	-	H	Exclude sensitive areas and provide protection for nearby sensitive areas.	8	5	4	1	17	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Ecologist/Proponent	Included in construction costs.
Loss or disruption of mammal migration routes.	Waste Handling	6	5	2	4	52	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; allow for natural crossings where possible; control movement of personnel; and limit speeds of vehicles.	6	5	2	1	13	-	L	Develop and implement awareness programmes aimed at ensuring that persistent and deliberate impacts on animals in nearby natural habitat are prevented.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Direct impacts on sensitive/pristine habitat types.	Waste Handling	8	5	3	3	48	-	M	Exclude sensitive areas and provide protection for nearby sensitive areas; limit the spread of impacts to nearby sensitive areas.	8	5	3	1	16	-	L	Develop environmental monitoring plans that identify and address issues of concern as well as include relevant aspects in awareness training; develop hydrocarbon spill reaction and cleanup action plan.	Seasonal/Bi-annual	Environmental control officer	Included in construction costs.
Direct impacts on common fauna species of the study area.	Waste Handling	4	4	2	4	40	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; limit speeds of vehicles; and avoid open waste areas that could be targeted by rodents and scavengers.	4	4	2	3	30	-	M	Develop and implement awareness programmes; provide adequate waste disposal facilities; manage operational issues with respect to hygiene, ablution and food provision; develop hydrocarbon spill reaction and cleanup action plan.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Faunal interaction with structures, servitudes and/or personnel.	Waste Handling	4	5	3	4	48	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; limit speeds of vehicles; and avoid open waste areas that could be targeted by rodents and scavengers.	4	4	2	2	20	-	L	Develop and implement awareness programmes; provide adequate waste disposal facilities; manage operational issues with respect to hygiene, ablution and food provision.	Ongoing	Environmental control officer/Health & Safety Officer/Contractor/Site Manager	Included in construction costs.
Impacts on surrounding habitat/species, including ecosystem functioning.	Waste Handling	6	4	2	3	36	-	M	Ensure minimal footprint clearance; ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; limit speeds of vehicles; and avoid open waste areas that could be targeted by rodents and scavengers.	6	4	2	1	12	-	L	Develop and implement awareness programmes; provide adequate waste disposal facilities; manage operational issues with respect to hygiene, ablution and food provision; develop hydrocarbon spill reaction and cleanup action plan.	Seasonal/Bi-annual	Environmental control officer/Health & Safety Officer	Included in construction costs.
Issues related to AIR QUALITY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 4: WASTE HANDLING																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No further impacts envisaged - impacts on social aspects are addressed in footprint clearance.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Leaks or spills causing contamination of surface water, either directly or idirectly, via groundwater seepage. During construction activities a number of potentially polluting substances will be used and likely stored on site, including diesel, oil, cement, explosives (shaft construction) and waste generated during construction activities. Incorrect handling of these materials as well as accidental spills and leaks could result in pollutants entering downslope wetlands via surface runoff, leading to water quality deterioration.	Groundwater seepage	8	3	2	4	52	-	M	All hazardous substances used during the establishment of infrastructure should be stored on impervious surfaces that allow for the containment of spills and leakages (e.g. bunded areas). Should spills occur, these should be reported to the ECO. Larger spills will require the appointment of specialist clean-up teams to rehabilitate the affected area. No hazardous materials may be stockpiled in any wetland area on site. Sufficient spill clean-up materials should be kept on site at all times. All waste should be stored in clearly demarcated areas on site and disposed of at registered, licensed waste facilities.	6	2	1	3	27	-	L	Implement mitigation measures in accordance with the proposed mitigation measures	Ongoing	Environmental control officer	Included in Construction and Operational Costs
Water quality impacts, resulting from spills, leaks, dust or dirty stormwater, will result in the loss of taxa that may be sensitive to water quality. In addition, altered hydrology, in terms of timing, duration and quantity of water will affect habitat availability. Reduced flows or shorter periods of inundation may reduce both the availability and suitability of habitats and will have an impact on aquatic fauna.	Deterioration of water quality	6	4	2	4	48	-	M	Implementation of all mitigation measures listed above for erosion control and water quality management will reduce the severity of impacts. An emergency preparedness plan should be compiled and implemented in the event of major spills (e.g. fuel, mine water or sewage spill). Dust suppression measures should be used. A biomonitoring plan should be compiled and implemented and should include assessments of water quality, habitats and aquatic macroinvertebrates. Sampling sites further down in the Doring River catchment should be included to assess impacts on downstream ecosystems. All mitigation measures relating to water quality should be audited with prompt follow-up action taken in the event of non-compliances	6	4	1	2	22	-	L	Implement mitigation measures in accordance with the proposed mitigation measures	Ongoing	Environmental control officer	Included in Construction and Operational Costs
During construction activities a number of potentially polluting substances will be used and likely stored on site, including diesel, oil, cement, explosives (shaft construction) and waste generated during construction activities. Incorrect handling of these materials as well as accidental spills and leaks could result in pollutants entering down slope wetlands via surface runoff, leading to water quality deterioration.	Deterioration of water quality	6	4	1	3	33	-	M	All hazardous substances used during the establishment of infrastructure should be stored on impervious surfaces that allow for the containment of spills and leakages (e.g. bunded areas). Should spills occur, these should be reported to the ECO. Larger spills will require the appointment of specialist clean-up teams to rehabilitate the affected area. No hazardous materials may be stockpiled in any wetland area on site.	6	3	1	2	20	-	L	Sufficient spill clean-up materials should be kept on site at all times. All waste should be stored in clearly demarcated areas on site and disposed of at registered, licensed waste facilities.	Ongoing	Environmental control officer	Included in Construction and Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE ACTIVITY 4: WASTE HANDLING																				
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

6.4 SOFS DBM Project Extension Construction Phase

During the Construction of SOFS DBM Project Extension, no infrastructure development is planned and only continuous underground mining activities from the DBM Project will take place in the underground operations into the SOFS DBM Project Extension properties. There will be no surface infrastructure or other surface disturbances as currently planned.

During the construction phase the underground mining and dewatering of the underground operations will impact the biophysical environment.

6.4.1 Hydrogeology

Since there will be no official surface construction during the mining of the area, groundwater impacts from the Karoo aquifer are negligible. Water inflow from the Witwatersrand aquifer will be a factor, however. The underground workings will need to be dewatered for mining to occur.

6.4.2 Ecology

There will be no removal of fauna and flora species on site. The mining activities takes place below the burrow and habitation depth of most species and would not affect the possible mammal species on the surface. Existing underground mining activities have created a baseline disruption for underground activities which most species are adapted to and do establish themselves on top of underground mining operations.

6.4.3 Climate Change

In terms of the possible impacts the operations will have on climate change, the fact that there is currently no infrastructure, surface disturbances, or activities planned, the Project would have very low impacts on climate change.

6.4.4 Heritage

The chances of heritage features occurring on the surface of the footprint are very high. These features will range from low significance (e.g. the ruins) to high significance (e.g. graves).

The underground mining would not affect the surface features.

A phase 1 HIA would be required if the surface footprint were to be affected in any manner.

6.4.5 Agricultural Potential

The SOFS DBM Project Extension project only consists of underground mining activities. The mining operation will take more than 700m below the surface. There will be no surface interruptions for agricultural activities and the surface of the properties will continue with the current land uses of primarily agriculture and residential. As found in the hydrogeological assessment, there will be no effect on the surface water resources as well as the borehole users. Therefore, the water sources for agricultural activities will also not be affected.

6.4.6 Wetlands

The identified wetlands would not be affected by the underground mining activities. Wetlands typically have a shallower hydrological feed and the depth at which mining takes place within this area would not affect the wetland feeding system or the wetland ecology and functioning.

Table 6-6 provides the Impact Assessment Table for the possible impact during the construction phase of the project as well as the proposed mitigation measures to manage the possible impacts.

Table 6-6: Construction Impacts for the SOFS DBM Project Extension

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE Fo OF SOFS PROJECT: UNDERGROUND MINING																				
Issues related to HYDROGEOLOGY																				
Baseline information is required for water quality monitoring purposes.	Underground workings Dewatering	2	2	2	2	12	-	L	Monitoring water quality in the monitoring network. Meter abstracted water user for quantity.	2	2	1	2	10	-	L	Regular water level readings must be taken (from probes and hand measurements) to monitor changes in the groundwater table. If possible, these boreholes should be placed throughout the mine to assess the regional groundwater table.	Quarterly	Environmental Coordinator	To form part of the existing monitoring program
																	Monitoring boreholes should be installed on the boundaries of the proposed new mining right extension area as well as around the perimeter of the entire proposed SOFS mining area. This is to ensure that mining activities are not impacting groundwater levels or groundwater quality in the area, which will negatively affect groundwater users who rely on this water source for domestic use and farming.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	It is recommended that all monitoring boreholes be monitored on a quarterly basis.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	Although there are no highly elevated constituents in the groundwater, with the exception of nitrate, it is recommended that the parameters used for analysis in this report is used for monitoring purposes.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	It is recommended that the data is stored in a dedicated database and that quarterly and annual reports are generated for mine management.	Quarterly	Environmental Coordinator	To be determined - depending on severity of incident
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to FAUNA AND FLORA																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental control officer/Ecologist/Proponent	Included in starting costs.
Issues related to AIR QUALITY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to NOISE																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to TRAFFIC																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to VISUAL																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to Blast and Vibration																				
Ground Vibration	Blasting	4	1	2	3	21	-	L	Safety for underground structures should be monitored and responsible blasting should take place.	2	1	2	3	15	-	L	All animals and people should not be present within 500m from the blasting operations. This includes underground to surface.	During the starting phase	mine	Included in starting costs.
Issues related to SOCIAL																				
No significant additional social impacts would occur for	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in construction and operational costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
SOFS DBM Project Extension .																				
Issues related to HERITAGE																				
Graves are located on the surface. Would not affect the surface graves.	Graves/ grave yards	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to WETLANDS																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in construction costs.
Issues related to RADIATION																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in construction costs.
Issues related to Climate Change																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in construction costs.

6.5 Operational Phase

Wits Gold will during the operational phase encompass underground mining activities. During the operational phase, surface infrastructure will continue to be maintained.

During the operational phase, the following activities could impact on the bio-physical environment and the cultural/social setting:

- Underground Mining Activities;
- Possible compaction of soils and erosion of soil stockpiles and berms by wind and water;
- Impact on surface- and groundwater system due to the operational activities;
- Dust dispersion from workings;
- Clean and dirty water control and maintenance;
- Sewage management; and
- Ancillary activities (workshops, offices, etc) .

6.5.1 Geohydrology

The single largest risk in terms of groundwater impacts during the operational mining phase is that of aquifer dewatering of the deeper lying Witwatersrand Complex. Average inflow volumes that were simulated vary between 200 and 6300 m^3/d. Despite the dewatering volumes, no groundwater users would be affected, as the deeper lying Witwatersrand aquifer is isolated from the upper Karoo aquifer.

6.5.2 Hydrology

It is anticipated that most risks posed to local surface water resources could be effectively managed by an appropriate storm-water management plan.

- Deep seepage from tailings and slimes facilities into local watercourses is unlikely due to the location of discard facilities far from rivers and streams. It is possible that a TSF located towards the east of the planned discard area could allow seepage into deep and well-drained sandy soils that will eventually seep into local river systems. The design of TSFs should consider seepage risks and, if needed, make allowance for sealing or lining of the base of a tailings dam.
- Other seepage will be collected by means of return water drains and transferred to return water dams. In this case, where stormwater will be treated and discharged,

water from return water dams should be considered first priority water supply to processing and treatment plants.

- A concern that needs to be considered is that dust created in TSFs could add to local atmospheric pollution. Dust from the tailings dams of other mines in the vicinity of the town of Virginia is widely claimed to pose health risks to local inhabitants. Dust suppression on the TSFs constructed for this mine is considered to be important.
- Dirty water runoff conveyance and storage systems at the mine will be controlled by structures and control measures prescribed in the Storm-water Management Plan.

6.5.3 Soils, Land Use and Land Capability

For the impact assessment, all the following phases of the project cycle were considered for potential impacts on soil and land capability. Below is a description of each of the activities per operational phase that may result in soil impacts:

- Daily traffic on haul roads;
- Construction of ventilation shafts as mining progresses;
- Operations at TSF;
- Daily mining activities resulting in waste generation by mine workers as well as potential fuel and oil spillages by on-site traffic; and
- Treatment of ore to extract gold.

6.5.4 Wetlands

The following impacts are expected to occur as a result of the proposed project activities:

Operational Phase:

- Discharge of stormwater; and
- Water quality deterioration due to storage, handling, leaks and spills of a variety of polluting substances on site.

6.5.5 Air Quality

The proposed activities will result in dust emissions, both from mining activities and fugitive emissions from the large areas of previously vegetated land that will now be exposed. Provided sufficient mitigation measures are instigated, it is unlikely that these emissions resulting from mining activity will result in the exceedence of South Africa's guidelines for particulate emissions.

The existing Harmony mine tailings dump is an area of concern, although it is impossible to determine whether the emissions that result from Wits Gold DBM's activities will increase or decrease the fugitive dust emissions from the dump in question. It is recommended that care be taken in the design and structure of the dump, and that the existing dust fall out monitoring network be redesigned to centre around the dump, with monitors in the sensitive reception areas of Virginia and Meloding.

6.5.6 Traffic

It is evident that the traffic generated by the proposed development does not have a significant impact on the external road network. In terms of the intersection and road link capacity, no improvements are recommended since the intersections under investigation are expected to operate at acceptable level of service.

The interaction (turning movements) between the construction and public transport and privates vehicles might impose some safety hazardous to the vehicles drivers. It is therefore recommended that the following measures be adopted to mitigate the impact:

- Surfacing of S239 Road between Virginia Way and the S239 / Access Road intersection.
- Construction of an exclusive right turn lane, on the northbound approach as indicated in Drawing 2984/GL/01. The exclusive right turn lane should be constructed with a 60 m long and a 60 m tapper.
- Provision of light at sufficient standards at the intersection of the S239 (Theunissen Street), S1279 and Jan Hofmeyer Street routes and the access to the development.
- No on-street pick up/drop offs at the intersection of the S239 (Theunissen Street) S1279 and Jan Hofmeyer Street routes and the access to the development (drop-offs/pickup should be done on site).

6.5.7 Social

The social change processes shown below are expected to take place as a result of this project.

Demographic processes	Economic processes	Geographic processes
• In-migration; • Presence of temporary workers; • Resettlement; and • Displacement / dispossession.	• Waged labour; and • Conversion and diversification of economy.	• Conversion and diversification of land use; • Enhanced transport and rural accessibility; and • Physical splintering.
Institutional and legal processes	**Emancipatory and empowerment processes**	**Socio-cultural processes**
• No impacts are expected.	• Capacity building.	• Social behaviour.

It is important to pause here and clarify that the actual impacts experienced at a given project site will depend on a variety of factors, that range between the baseline conditions, the public participation process, engagement and capacity building that has taken place, the type of mining methods and minerals mined, the role of politics, most notably in local municipalities and the other processes of social change either already under way (e.g. due to exploration activities), or which may develop during the life of the mine.

6.5.8 Heritage

6.5.8.1 Site 1

The development will have a direct impact on site 1. The exact nature thereof is however not known and should be confirmed by the client. Due to the sensitivity of this issue, graves are always regarded as having a high cultural significance.

With graves it usually is best to incorporate them into the development plan for the site. Should this be possible, the graveyard should then be fenced off and kept intact. Access to any descendants should also be allowed. A management plan needs to be drafted and implemented and it should also be monitored once a year by a heritage expert.

Should the above not be possible the graves will have to be exhumed and the bodies reburied. This is a lengthy process including social consultation for 60 days in order to find families of the deceased and to obtain their permission.

In the case of graves older than 60 years and those with an unknown date of death (as in this case) an archaeologist as well as an undertaker will have to be part of the team involved. For graves with a date of death of younger than 60 years, only an undertaker is involved.

6.5.8.2 Site 2

Site 2 falls to the west and just outside of the footprint area of the proposed mining development. Therefore there will not be a direct impact on the site, but there will be a secondary one. The buildings are regarded as having a medium cultural significance. It still is in a good condition, but is not very unique.

The buildings should remain intact and may even be reutilized. Any structural changes should be communicated with the Provincial Heritage Resources Agency (PHRA) of the Free State Province and a permit will be required to do so. The buildings should not be demolished.

6.5.9 Radiation

Impact on public safety as a result of exposure to radioactivity.

Table 6-7 – **Table 6-18** details the identified impacts and management measures for the operational activities.

Table 6-7: Impacts and Management Measures for Operational Phase Activities: Mining of Gold

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
Issues related to GEOLOGY																				
Removal of gold resources will permanently alter the geology of the area.	Mining	10	5	2	5	85	-	H	No mitigation measures are possible, as mining permanently destroys the geological strata. The mining operations will remain within the limits of the designated mining rights area.	10	5	2	5	85	-	H	The mine will make optimal use of the gold resources which forms part of the mining rights area.	N/A	N/A	N/A
The potential sterilisation of other resources due to the establishment of infrastructure on potential mineral resources.	Mining	8	5	2	4	60	-	M	The mine must undertake detailed geological investigations to determine the extent of the resources and ensure that no mining infrastructure is located on areas of potential mineral resources. The mine must ensure to optimally utilise all available gold resources. Should additional gold resources be identified outside the boundaries as stipulated within this report, the necessary applications must be made to the relevant authorities, who will include, but are not limited to the DMR (for mining), DEA (for listed activities); DWA (for water related issues), NDA (for potential impacts on land use and capability), SAHRA (for potential impact on unidentified graves or culturally important sites).	8	5	2	3	45	-	M	Phased mine plans must be developed within legal mining rights area. All mining activities will be undertaken in line with the approved Mining Works Programme and the EMP.	Ongoing	Project Manager	Included in Operational Costs
Issues related to TOPOGRAPHY																				
Structures such as stockpiles and waste rock dumps will change the natural topography of the area.	Stockpiling	10	5	2	5	85	-	H	Ensure that stockpiles and waste rock dumps are designed taking the topography of the area into consideration.	8	4	2	3	42	-	M	The waste rock dump will either be shaped and rock cladded or shaped and grassed. This will be dependent on the optimal utilisation of these resources in the future.	During Operation	Environmental Control Officer/Project Manager	Included in Operational Costs
Potential subsidence as a result of dewatering.	Dewatering	10	5	2	4	68	-	H	Ongoing monitoring must be undertaken of the surface area to determine whether any subsidence is taking place. Should subsidence be detected it must be made safe and rehabilitated as soon as possible.	6	5	2	3	39	-	M	The mine will ensure to backfill area of subsistence as soon as possible after it occurred.	During Operation	Environmental Control Officer/Project Manager	Included in Operational Costs
Issues related to GEOHYDROLOGY																				
Dewatering of the aquifer	Mining	6	4	3	4	52	-	M	No mitigation can be implemented during this phase.	6	4	3	4	52	-	M	Monitoring of groundwater quality	Quarterly. Entire operational phase of mine	Mine Environmental Manager	Included in Operational and Closure Costs
Deterioration in water quality for the surrounding farm owners, wetland and other water users.	Mining	10	5	2	4	68	-	H	Groundwater quality monitoring networks must be set up prior to the construction phase so that any groundwater quality and quantity issues can be addressed accordingly.	8	2	2	5	60	-	M	Groundwater quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer/Project Manager	R 91 000.00
																	Quarterly groundwater monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality or quantity issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
Polluting the groundwater system from Acid Mine Drainage (sulphates, iron and low pH). Exposure of geological strata will result in geochemical changes and the contamination of the groundwater system.	Mining	10	5	3	4	72	-	H	Disturbing geological strata is a result of mining. Mining areas need to be kept as dry as possible to reduce contact time of water and oxygen with exposed rock and therefore keep contamination to a minimum.	6	4	2	4	48	-	M	Implement water management structures on site.	Ongoing	Environmental Control Officer/Project Manager	Included in Operational Costs
Groundwater contamination as a result from seepage from not-compacted Waste Rock Dump.	Groundwater contamination	8	4	2	4	56	-	M	Compact Waste rock Dump footprint area prior to dumping.	6	4	1	3	33	-	M	Sufficient compaction of waste rock dump area prior to dumping to prevent infiltration of potential seepage. Divert run-off to dirty water return water dam	One-off compaction; constant diversion of run-off	Site engineer supervise compaction to required level	Included in Operational Costs
Seepage into underlying aquifer.	Groundwater contamination	8	4	3	4	60	-	M	Lining of facility including installation of drains.	6	4	2	3	36	-	M	Lining of Brownfield's evaporation ponds area, before disposal of tailings commences	One-off construction, constant treatment of seepage	Mine Environmental unmit manages treatment of seepage	Included in Operational Costs
Issues related to HYDROLOGY																				
Contamination of clean water catchment at the plant area.	Product handling	8	3	2	4	52	-	M	Implement clean and dirty water separation.	6	3	2	3	33	-	M	Install clean and dirty water separation channels on site and maintain them throughout the life of mine.	Ongoing	Environmental Control Officer/Project Manager	Included in Operational Costs
Deterioration in water quality is a concern for the surrounding users.	Mining	10	5	2	4	68	-	H	Surface water quality monitoring networks must be set up prior to the construction phase so that any surface water quality issues can be addressed accordingly.	6	4	2	3	36	-	M	Surface water quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer/Project Manager	R 91 000.00
																	Quarterly surface water monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Drainage water from underground and polluted water from processing plants could pollute river systems.	Disposal of surplus water	6	5	3	4	56	-	M	Water treatment.	6	4	2	4	48	+	M	Polluted surface water must be treated to a better quality standard than that of natural stream-flow and released into streams to benefit downstream users (if appropriate licinsing is obtained in terms of the NWA).	Ongoing	Environmental Control Officer	Included in Operational Costs
Runoff from dirty water footprint areas could pollute streams.	Runoff	4	4	3	4	44	-	M	Contain dirty water.	4	5	1	2	20	-	L	Dirty water runoff must be contained and captured in a well designed polution control dam and treated, re-used or lost to evaporation as determined applicable.	Ongoing	Environmental Control Officer	Included in Operational Costs
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Soil compaction	Construction of infrastructure	2	4	6	4	48	-	M	Keep infrastructure localized to reduce footprint	2	4	4	4	40	-	M	Implement Mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental Control Officer	Included in Operational Costs
Soil erosion	Vegetation removal during construction and operations	1	5	8	4	56	-	M	Keep as much original landcover/topsoil as possible	1	3	4	4	32	-	M	Implement Mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental Control Officer	Included in Operational Costs
Issues related to FAUNA AND FLORA																				
Loss or disruption of mammal migration routes.	Mining activities	8	5	3	2	32	-	M	Prevent access and impacts within areas of high ecological sensitivity.	8	5	3	1	16	-	L	Develop an environmental monitoring plan aimed at identifying and addressing issues of concern and include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
Direct impacts on sensitive/pristine habitat types.	Mining activities	8	5	3	2	32	-	M	Prevent access and impacts within areas of high ecological sensitivity.	8	5	3	1	16	-	L	Develop an environmental monitoring plan aimed at identifying and addressing issues of concern and include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Direct impacts on common fauna species of the study area.	Mining activities	4	4	2	4	40	-	M	Prevent spread of construction related impacts to nearby areas of natural habitat.	4	4	2	2	20	-	L	Develop and implement awareness programmes and prevent persistent and deliberate impacts on animals in nearby natural habitats.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Faunal interaction with structures, servitudes and/or personnel.	Mining activities	6	4	2	4	48	-	M	Ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; limit speeds of vehicles; avoid open waste areas that could be targeted by rodents and scavengers.	6	4	2	2	24	-	L	Develop and implement awareness programmes and prevent persistent and deliberate impacts on animals in nearby natural habitats.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Impacts on surrounding habitat/species, including ecosystem functioning.	Mining activities	4	4	2	4	40	-	M	Prevent spread of construction related impacts to nearby areas of natural habitat.	4	4	2	3	30	-	M	Develop and implement awareness programmes; provide adequate waste disposal facilities; manage operational issues with regard to hygiene, ablution and food provision; develop hydrocarbon spill reaction and cleanup action plans.	Seasonal/Bi-annual	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Issues related to AIR QUALITY																				
All activities associated with the mining of gold has the potential to release dust.	Mining activities	10	4	2	4	64	-	H	A dust monitoring network must be set up prior to the construction phase so that any air quality or dust issues can be addressed accordingly.	6	4	2	4	48	-	M	Dust sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental control officer	R 92 000.00
																	Monthly monitoring reports will be generated by the mine or through a suitably qualified air quality specialist.	Monthly	Environmental control officer/Air Quality Specialist	R 42 000.00
																	In the event that air quality or dust issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Air Quality Specialist	To be determined - depending on severity of incident
																	Ensure optimal implementation and maintenance of the dust suppression programme .	Ongoing	Environmental control officer	Included in Operational Costs
																	The road surface to be maintained on a weekly basis.	Weekly	Environmental control officer	Included in Operational Costs
Fugitive dust emissions as a result of the movement of vehicles and removal of material for construction purposes will have a negative impact in terms of visual characteristics/air quality.	Ore handling	6	2	2	4	40	-	M	The impact during construction phase is limited to a short period only. All mine haul roads will be treated with dust suppressant chemicals or watered in order to reduce the impact of dust on the aesthetics of the surrounding area.	2	2	2	3	18	-	L	Establish a dust management plan in consultation with the environmental manager and include dust suppression as part of the contractor's responsibility.	Ongoing	Environmental Control Officer	Included in Operational Costs
Issues related to NOISE																				
Noise disturbances will be present due to the operation of general mining related activities.	Mining activities	10	4	2	5	80	-	H	The use of noise barriers or earth berms and screening of noise at individual source where an activity can be clearly heard at the boundary.	6	4	1	3	33	-	M	Ventilation design to be addressed in Final Mine Plan which will be approved by all relevant authorities prior to construction activities taken place.	Prior to construction	Environmental Control Officer/Project Manager	Included in Operational Costs
									All parts or equipment such as the gearboxes, rotating parts, hydraulics and electric motors to be maintained,								Develop and implement the acoustic screening plan.	During Construction	Environmental Control Officer/Project Manager	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
									serviced, and acoustically screened of where possible.								Construct an earthberm around the plant, if necessary.	During Construction	Environmental Control Officer/Project Manager	Included in Operational Costs
Issues related to TRAFFIC																				
Fugitive dust emissions from ore transportation activities will have a negative air quality impact.	Transportation	10	4	3	3	51	-	M	Dust suppression methods must be implemented around the stockpiling areas and transfer stations and it is recommended that a dust monitoring network be established to monitor levels of dust dispersion. Should it be found that the stockpiles create excessive dust, measures must be implemented to reduce this impact.	6	4	2	3	36	-	M	Ensure optimal implementation and maintenance of the dust suppression programme and monitoring programme.	Ongoing	Environmental Control Officer/Project Manager	Included in Operational Costs
																	The road surface to be maintained on a weekly basis.	Weekly	Environmental Control Officer/Project Manager	Included in Operational Costs
Vehicle Safety (access spacing, road alignments, speed differential, lighting).	Transportation	6	4	3	4	52	-	M	Provision of light at sufficient standards at key intersections and the access to the development. No speeding or on-street pick up/drop offs at key intersections and the access to the development (drop-offs/pickup should be done on site).	2	4	3	2	18	-	L	Inspect that lighting fixtures are in working order, and replace when necessary.	Weekly inspection	Environmental Control Officer/Project Manager	Included in Operational Costs
																	Implement a strict penalty fine system for rule breaking.	Ongoing	Environmental Control Officer/Project Manager	N/A
Issues related to VISUAL																				
Light pollution should be seriously and carefully considered and kept to a minimum wherever possible as light at night travels great distances.	Mining activities	8	4	2	4	56	-	M	Security flood lighting and operational lighting should only be used where absolutely necessary and carefully directed, preferably away from sensitive viewing areas, i.e. the residential areas within falling within the viewshed and the roads in close proximity to the site .	6	4	2	3	36	-	M	Wherever possible, lights should be directed downwards so as to avoid illuminating the sky and minimizing light spills.	During Construction	Project Manager	N/A
Issues related to SOCIAL																				
Increase in population size	In-migration	10	4	3	4	68	-	H	Implement according to proposed action plan.	8	4	4	3	48	-	M	• Employment criteria should be communicated to the community in advance (e.g. in newspapers, community forum notice boards, etc); • Local labour should be employed as far as possible; • Verify the details of potential employees in order to ensure that local labour is employed; • Accommodation for members of the workforce, other than security personnel, must not be permitted on site; The only semi-permanent structures that should be allowed on site is guard houses for security personnel; • Camp followers / informal traders must not be allowed to congregate outside the construction site; • Temporary staff should be housed in the surrounding communities, i.e. Bed and Breakfast establishments, etc. to prevent the establishment of construction camps; and • The AgriSA protocol for access to farms should be followed at all times.	Ongoing	Environmental Control Officer	Included in Operational Costs
Effect of temporary workers on social dynamics	Local labour	8	4	3	3	45	-	M	Implement according to proposed action plan.	4	3	3	3	30	-	M	• Chemical latrines or ablution facilities must be provided to workers in close proximity to the site; • Employ local labour as far as possible (within a 20 km radius); • Avoid the establishment of camps, hostels or temporary accommodation for workers. Accommodation should	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	be provided at suitable locations in Virginia and Welkom and surrounds; and • Ensure that during the project construction process and the operational phase of the project, employees receive adequate health support from the project team for work-related health problems.			
Waged labour	Job Creation	6	3	3	4	48	+	M	Implement according to proposed action plan.	8	4	3	4	60	+	M	• Unskilled and unemployed labour should be sourced from the surrounding local communities as far as possible; • Skills development opportunities should be granted to community members and local job seekers, where needed; • Maximise employment opportunities for the local communities and reduce the influx of a foreign labour force whilst ensuring an effective construction and operational phase; • Capture all project relevant skills in the project area with the aim to ensure maximum local employment; • Make use of any existing skills databases and include the local councillors and other representative community structures in the process; • Develop a Recruitment Manual to include a list of employment opportunities that will become available during the project planning, construction and post-construction phases and provide guidelines on procedures to be followed by aspiring employment seekers; • Establish an employment information desk to assist with the day to day management of project related labour issues; • Identify and maximise on appropriate training and skills transfer opportunities that will enhance the skills level of the local labour force during the pre-construction, during construction and during full operation. It is recommended that training and skills development activities start during the construction period; • Project contracts between Wits Gold and the main contractor should stipulate the use of local labour for unskilled and semi-skilled positions and tasks; • Ensure that local businesses, especially those of Historically Disadvantaged Individuals (HDI), women and of Small, Micro and Medium Enterprises (SMMEs) get allocated the maximum appropriate share of project related business opportunities; and	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	• Ensure that the Labour Relations Amendment Act, 2002 (Act No. 12 of 2002) as well as the necessary policies and procedures are taken into consideration to ensure the correct procurement procedures.			
Conversion and diversification of economic activities (local economy)	Mining	4	3	3	3	30	+	M	Implement according to proposed action plan.	6	3	3	4	48	+	M	• Consideration should be given to the fact that agricultural practises will be compromised and that it may become impractical, as well as uneconomical to continue; • Affected landowners must be consulted to establish means to continue farming practises, i.e. as part of a Local Economic Development project to supply the mine with produce; • Economic development should take place in line with the Local Municipality's IDP, as well as their Spatial Development Framework; and • The establishment of new businesses should comply with zoning and local by-law requirements.	Ongoing	Environmental Control Officer	Included in Operational Costs
Conversion and diversification of economic activities (farmers)	Mining	10	4	2	3	48	-	M	Implement according to proposed action plan.	8	3	1	3	36	-	M	• The placement of mine infrastructure should avoid splintering farms, and should be done in consultation with affected landowners; • Consideration should be given to buying out properties in its entirety to reduce the risk of dissolving the economic unit of the farm; • Consideration should be given to the fact that agricultural practises will be compromised and that it may become impractical, as well as uneconomical to continue; and • Affected landowners must be consulted to establish means to continue farming practises, i.e. as part of a Local Economic Development project to supply the mine with produce.	Ongoing	Environmental Control Officer	Included in Operational Costs
Increase in standard of living (broader community)	Job Creation	4	2	3	3	27	+	L	Implement according to proposed action plan.	8	4	3	3	45	+	M	• To increase the standard of living locally, the contractors employed should aim to ensure that local or surrounding people are employed where possible. It is furthermore suggested that all the employees should be motivated to spend their earned income locally. This can be achieved by ensuring that the goods and services required by the employees are provided for locally (if possible). The onus will lie on local shop owners to ensure that the demanded for goods and services are met; and • The employment of local residents during operation (as far as practically possible) would increase the standard of living, since they would have a	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	higher disposable income and less transportation costs.			
Increase in standard of living (local farmers)	Job Creation	8	4	2	3	42	-	M	Implement according to proposed action plan.	6	3	1	3	30	-	M	• The reduced standard of living of affected landowners should be taken into consideration when determining the appropriate compensation of landowners.	Ongoing	Environmental Control Officer	Included in Operational Costs
Employment creation and decrease in unemployment	Job Creation	4	3	3	3	30	+	M	Implement according to proposed action plan.	6	4	3	3	39	+	M	• It is suggested that non-locals should only be hired when specialist skills, which are not available locally, are required and local business providing such skills cannot be created. The following aspects in this regard should receive priority: o Labour based construction methods should be used whenever practically possible; o Local residents and communities should be employed, wherever possible; o Local construction companies should be used whenever possible, especially for subcontracting work; and o Local suppliers should be used as far as possible.	Ongoing	Environmental Control Officer	Included in Operational Costs
Conversion and diversification of land use	Mining	6	4	3	4	52	-	M	Implement according to proposed action plan.	4	4	3	4	44	-	M	• Educate landowners in terms of their rights and responsibilities prior to the project going ahead; • Assist landowners in identifying ways to adapt their land uses; • Plan to avoid splitting agricultural land and natural habitats; • Integrate the mining area with regional land use planning objectives where possible; and • Take into account surrounding land uses and design post-mining land use options to support and enhance long-term development options.	Ongoing	Environmental Control Officer	Included in Operational Costs
Transportation and rural accessibility	Transportation	4	4	3	2	22	-	L	Implement according to proposed action plan.	6	4	3	4	52	-	M	• Employ local labour as far as possible to limit the negative impacts on the infrastructure and services within the area (e.g. roads); • Wits Gold should, in liaison with the relevant Roads and Traffic Department, assist with the regular maintenance of the roads frequently used by construction and mine traffic; • Speed limits on the local roads surrounding the mining site should be enforced; • Appropriate traffic management measures should be planned for and implemented, especially during the construction phase with the expected increase in heavy vehicle traffic; and • The mitigation measures proposed by the TIA should be implemented, where relevant.	Ongoing	Environmental Control Officer	Included in Operational Costs
Physical splintering	N/A	8	5	3	4	64	-	H	Implement according to proposed action plan.	6	4	3	4	52	-	M	• Wits Gold should consult with other service providers, government institutions and the local and district municipality to determine and mitigate these impacts;	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	• Avoid unnecessary subdivision of land and activities that could be sited on already disturbed land; • Create infrastructure corridors for pipelines, roads, power lines etc; and • Refer to mitigation measures indicated for "Conversion and diversification of land use".			
Capacity building (skills transfer)	N/A	6	2	3	4	44	+	M	Implement according to proposed action plan.	10	3	3	4	64	+	H	• Recruit and train local residents to supply unskilled labour during the construction and operational phase; • The use of diverse activities should be stimulated, allied with, but not reliant on, construction related activities such as outsourcing catering activities to local businesses. The local municipality could assist local residents and business owners to garner the benefit associated with the spin-offs emanating from the proposed mine; • Stakeholders should be mutually accountable for increased opportunities regarding skills and competency development (general education and technical training). This will enable active participation, not only in the construction sector, but also in other spheres of the economy, as well as providing opportunities for career enhancement; • Training should be concentrated on skills that can be readily transferred to other employment opportunities in the local area to avoid persons with trained skills leaving the area for work elsewhere; • The project implementers and/or the contractors should identify the required jobs to be undertaken prior to the construction phase to enable local recruitment and/or some form of basic training; • It is recommended that a comprehensive program for recruiting, hiring, training, orienting and counselling be established. The nature of the training provided does not need to be limited to specific project related tasks and can include financial planning, bookkeeping, general arithmetic etc; • The principles of the Expanded Public Works Programme must be adhered to and effective labour-based construction technologies must be used to increase the positive effects of job creation; • Ensure that stakeholders have knowledge of the support of legislation and regulations; • The implementation of the SLP should be monitored on an annual	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	basis; • Ensure compliance to the BBSEC and MPRDA; and • Ensure that the employment and training of HDSA and women meet the requirements of the BBSEC.			
Social behaviour	N/A	6	4	2	3	36	-	M	Implement according to proposed action plan.	6	2	2	3	30	-	M	• Establish a code of conduct for construction and mine workers with strict control measures; • Require mine personnel to wear identification badges to distinguish them from trespassers or unwanted loiterers; • Liaise with the SAPD in order to implement effective crime prevention strategies; and • Liaise with existing forums in the community to communicate information to the community and to assist in the monitoring of compliance.	Ongoing	Environmental Control Officer	Included in Operational Costs
Nutrition	N/A	8	4	4	4	64	-	H	Implement according to proposed action plan.	6	3	3	4	48	-	M	• In relation to exposures from any particular source of mining, protection and safety shall be optimised in order that the magnitude of individual doses, the number of people exposed and the likelihood of incurring exposures all be kept as low as reasonably achievable, economic and social factors being taken into account, within the restriction that the doses to individuals delivered by the source be subject to dose constraints; • Implement a radiation monitoring programme and establish means of isolating radiogenic materials; • Implement the recommendations from the Radiological Study; • Preparation of radiation management plan; • Establish and maintain a safety culture to encourage a questioning and learning attitude to protection and safety and to discourage complacency; • Establish policies and procedures that identify protection and safety and makes it of highest priority; • Promptly identify and correct problems affecting protection and safety; • Safety assessments related to protection and safety measures for sources of radiation associated with mining shall be made at different stages; • All employees on site, as well as surrounding landowners, should receive general radiation safety training to maintain a safe working and living environment for all; and • Establish procedures that ensure there is as little exposure as possible	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	of the workforce and of the public to dust contaminated with radioactive material during mining.			
Actual health	N/A	8	4	2	4	56	-	M	Implement according to proposed action plan.	4	4	3	3	33	-	M	• In order to reduce the impact on the local community it is important to maximise the use of local labour as far as possible; • Local labour should be employed as far as possible to avoid additional pressure on the existing services; • HIV / Aids awareness campaigns should be initiated by Wits Gold and provided to all its mine employees on a regular basis; • Wits Gold should investigate how they could assist in implementing a community health awareness programme in liaison with the LM; • Environmental pollution must be limited as far as possible and the requirements of the EMP be implemented to reduce the impact on surrounding landowners; • Environmental pollution must be limited as far as possible and the requirements of the EMP be implemented to reduce the impact on surrounding landowners; • The necessary safety precautions should be taken and first aid supplies should be made available on site; • All mine employees (including contractors) should undergo health and safety training on a regular basis; • The general health of employees should be monitored on an on-going basis and employees should be given free access to clinic services; • It is advised that Wits Gold, through consultation with the LM investigate ways in which their LED programmes and infrastructure development component of their SLP can assist in improving the overall health services within the communities; and • The required safety equipment should be provided to employees as well as on site and should be in a good working order.	Ongoing	Environmental Control Officer	Included in Operational Costs
Feelings in relation to the project	N/A	6	3	2	3	33	-	M	Implement according to proposed action plan.	6	2	2	2	20	-	L	• A comprehensive PPP should be implemented to effectively consult and involve the affected landowners and communities; • Continuous consultation with the affected communities should take place to keep them informed; • Consultation with the surrounding residents should take place on a continuous basis to understand, assess and mitigate their concerns where appropriate; • Wits Gold must be transparent about the areas they intend mining and the proposed mining method and	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	technology; and • Information about the proposed mining methods should be made available to stakeholders to educate them about mining in general as well as the proposed mining methods.			
Aspirations for the future (local landowners)	N/A	10	3	1	3	42	-	M	Implement according to proposed action plan.	8	3	1	3	36	-	M	• It is critical that Wits Gold maintain an open and trusting relationship with the affected communities subsequent to the granting of the mining right.	Ongoing	Environmental Control Officer	Included in Operational Costs
Aspirations for the future (broader community)	N/A	4	2	2	3	24	+	L	Implement according to proposed action plan.	10	4	3	4	68	+	H	• Wits Gold must be honest and transparent about the potential economic benefits and employment opportunities that the proposed mine is likely to effect in these communities, in order to manage any undue expectations.	Ongoing	Environmental Control Officer	Included in Operational Costs
Physical quality of the living environment	N/A	10	4	2	4	64	-	H	Implement according to proposed action plan.	8	4	2	3	42	-	M	• Existing community forums must serve as liaison between the affected stakeholders and Wits Gold and can discuss traffic, dust, noise and construction related concerns with them; • Suppress dust by spraying water or non-contaminating palliative liquids on roads, crusher and screening plant, mills and vehicles; • Prevent dust blowing off transported materials by washing vehicles, wheels and covering loads; • Rehabilitate behind production with adequate top soiling, fertilisation, irrigation and correct choice of grasses to ensure year-round cover; • Prepare a noise reduction plan to cover all significant impacts at source and implement noise reduction and screening to limit exposure. Drilling and blasting is generally intermittent and should be limited to daylight hours when ambient noise levels are highest. A hearing conservation programme must be implemented where noise exceeds 85dB(A) in the mine or must not be more than 7dB(A) above ambient residual noise levels beyond mine boundary or nearest residential community; • The maximum acceptable night time noise levels should not be exceeded; • Traffic calming measures should be put in place to minimise traffic noise; • Adequate monitoring of the biophysical impacts should occur in order to address any unnecessary inconveniences to stakeholders; • Mitigation and monitoring as recommended by the Water Quality Impact Assessments should be implemented; • Plant tall trees as barriers in gardens or in road reserve to reduce the visual and light intrusion, as well	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	as noise impacts; • Recommendations made in the EMP and EMPr should be adhered to. • Rehabilitate behind production with adequate top soiling, fertilisation, irrigation and correct choice of grasses to ensure year-round cover; • Prepare a noise reduction plan to cover all significant impacts at source and implement noise reduction and screening to limit exposure. Drilling and blasting is generally intermittent and should be limited to daylight hours when ambient noise levels are highest. A hearing conservation programme must be implemented where noise exceeds 85dB(A) in the mine or must not be more than 7dB(A) above ambient residual noise levels beyond mine boundary or nearest residential community; • The maximum acceptable night time noise levels should not be exceeded; • Traffic calming measures should be put in place to minimise traffic noise; • Adequate monitoring of the biophysical impacts should occur in order to address any unnecessary inconveniences to stakeholders; • Mitigation and monitoring as recommended by the Water Quality Impact Assessments should be implemented; • Plant tall trees as barriers in gardens or in road reserve to reduce the visual and light intrusion, as well as noise impacts; and • Recommendations made in the EMP and EMPr should be adhered to.			
Aesthetic quality of the living environment	N/A	6	4	2	4	48	-	M	Implement according to proposed action plan.	4	4	2	4	40	-	M	• The design and specific positioning of the infrastructure should aim to minimise the possible negative visual impact of the mine on the surrounding property owners; • The design of the mine buildings should blend in with surrounding environment; • Implement re-vegetation as levels are abandoned to break the form, reduce colour contrast, dust generation or contaminated runoff; and • Recycle dumps or use as backfill with appropriate permission.	Ongoing	Environmental Control Officer	Included in Operational Costs
Availability and quality of housing	N/A	2	3	2	3	21	-	L	Implement according to proposed action plan.	8	4	3	3	45	+	M	• Employees should be educated with regards to their accommodation options; • Housing needs should be monitored and addressed in consultation and cooperation with the applicable LMs; and • Maximise the employment of locals to limit the need for any additional	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	housing infrastructure, as far as possible.			
Adequacy of physical infrastructure	N/A	10	4	3	4	68	-	H	Implement according to proposed action plan.	8	4	3	3	45	+	M	• Ensure that the needed public services and capital facilities are in place before the peak construction occurs. This will ensure that demand for these services do not exceed supply; • The provision of infrastructural services must be integrated with the economic needs of the community; • Wits Gold, in liaison with the LM should proactively plan for enough infrastructure and services to meet the maximum potential of the mine in terms of service and infrastructure demand; • Measures must be taken to address infrastructure development as part of future planning; • The relevant authorities, and bodies involved in the supply of bulk services should be informed about the proposed project to ensure that it gets incorporated into their demand projections; • Promote local procurement of suppliers and contractors for the transport system.	Ongoing	Environmental Control Officer	Included in Operational Costs
Adequacy and access to social infrastructure	N/A	6	3	2	2	22	-	L	Implement according to proposed action plan.	8	4	2	4	56	+	M	• In consultation with the LM and other mines operating in the area, ensure that the necessary planning for upgrades of social infrastructure, where lacking due to the proposed mine, take place; • Involvement in upliftment programmes should be done according to the priority needs and projects identified as part of the LMs IDP, as well as in consultation with other stakeholders such as the local community representatives, ward committees and youth organisations; • Continuous involvement of the mine would be necessary and should be undertaken in a transparent and supportive manner; • Implement a regular and formalised consultation process with local government to ensure synergy between the mine's social development and LED focus; • Communication of the projects that Wits Gold would be involved in should filter through to all community levels to ensure maximum benefit to the community; and • Community development projects initiated by Wits Gold should avoid benefiting only a selected few but should follow a broad based approach, whilst also taking budgeting constraints into consideration.	Ongoing	Environmental Control Officer	Included in Operational Costs

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OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
Personal safety and hazard exposure	N/A	6	4	2	4	48	-	M	Implement according to proposed action plan.	4	3	2	3	27	-	L	• Local, unemployed labour should be employed as far as possible; • Accommodation for members of the workforce, other than security personnel, must not be permitted on site; • The only semi-permanent structures that should be allowed on site is guard houses for security personnel; • Camp followers / informal traders must not be allowed to congregate outside the construction site; • Strict security measures should be put in place. Security personnel should be on site on a permanent basis; • Construction workers should be confined to the construction area and should wear uniforms or identity tags to be easily identified; • The mining area should be fenced to avoid unauthorised entry by humans or animals onto the mining area; • The contractor should communicate the construction schedule and vehicle movements to the neighbouring property owners in advance; • Workers must not be allowed to overnight on the premises and must be transported to their places of residence by bus on a daily basis; • Workers must not be allowed to leave the designated mining areas without permission; • A Health and Safety Plan should be implemented and it must be ensured that all managers are trained in First Aid and other relevant safety courses; • Implement safety measures to limit fire hazards and implement fire breaks if possible; • Wits Gold should, in conjunction with the property owners, develop and implement emergency procedures; • Operational safety risks should be addressed as part of the OHS Act; • A Fire/Emergency Management Plan should be developed and implemented. It is important that this management plan and associated communication channels are developed at the outset of the construction phase. It would be important to regularly review the functionality and efficiency of such a plan in conjunction with the local emergency teams, mine management and neighbouring landowners; • Open fires for cooking and related purposes should not be allowed on site; • Appropriate fire fighting equipment should be on site and construction	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	workers should be appropriately trained for fire fighting; • The construction sites should be clearly marked and “danger” and “no entry” signs should be erected; • Speed limits on the local roads surrounding the construction sites should be enforced; and • Speeding of construction vehicles must be strictly monitored.			
Crime and violence	N/A	4	3	3	2	20	-	L	Implement according to proposed action plan.	4	2	3	2	18	-	L	• Local, unemployed labour should be employed as far as possible; • Wits Gold must liaise with the LMs and labour unions to establish a protocol for ensuring community safety; • Mine workers should be clearly identifiable by ensuring they wear uniforms and identification cards that should be exhibited in a visible place on their body; and • The AgriSA protocol for access to farms should be followed in all instances where access to farmers’ land is required.	Ongoing	Environmental Control Officer	Included in Operational Costs
Loss of natural and cultural heritage	N/A	8	5	1	3	42	-	M	Implement according to proposed action plan.	8	2	1	1	11	-	L	• The recommendations of the HIA should be implemented; • Local residents and farmers should be consulted to determine any possible heritage sites not identified by the HIA; and • Local residents and farmers should inform mitigation measures when addressing any potential impact on cultural heritage sites or graves.	Ongoing	Environmental Control Officer	Included in Operational Costs
Social networks	N/A	6	3	2	3	33	-	M	Implement according to proposed action plan.	6	3	2	2	22	-	L	• Employ local residents as far as possible; • Make use of credible SMME’s for the provision of goods and services; and • Embark on regular communication efforts towards the community with regards to the mine’s involvement in the communities. This could be done through an already established community forum.	Ongoing	Environmental Control Officer	Included in Operational Costs
Functioning of government agencies	N/A	8	3	3	4	56	-	M	Implement according to proposed action plan.	6	4	3	3	39	-	M	• Assist the LM with the diversification of the local economy; • Emphasise the use of local service providers and SMMEs and focus on the development of LED programmes; and • Institute a joint municipal coordinating and implementing committee to support the LM’s local economic and social develop needs and requirements, where feasible.	Ongoing	Environmental Control Officer	Included in Operational Costs
Impact equity (affected landowners)	N/A	8	4	1	3	39	-	M	Implement according to proposed action plan.	6	3	1	2	20	-	L	• Negative impacts on the local property owners should be limited as far as possible such as intrusion impacts (dust, noise, and air pollution). Mitigation measures from the specialist studies dealing with these issues should thus be strictly implemented; • Safety and security measures are	Ongoing	Environmental Control Officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
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OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
																	critical to avoid any increase in criminal activities within the local study area; and • The use of local labour must be maximised as far as possible.			
Impact equity (community members)	N/A	4	2	3	3	27	+	L	Implement according to proposed action plan.	8	4	3	3	45	+	M	• Skills training and development should be maximised to benefit as many local employees as possible; and • The use of local labour must be maximised as far as possible.	Ongoing	Environmental Control Officer	Included in Operational Costs
Gendered division of labour	N/A	4	3	3	2	20	+	L	Implement according to proposed action plan.	6	4	3	3	39	+	M	• Women must have equal employment opportunities; • Training and skills development should take place for women; • Salaries of women should be equal to that of men when undertaking the same job; • Commitments made in the SLP with regard to the employment of women should be adhered to; and • Institute a well designed gender equality strategy on the mine.	Ongoing	Environmental Control Officer	Included in Operational Costs
Employment opportunities will be created during the operational phase of the mine.	Employment Opportunities and Skills Inequities	8	4	2	4	56	+	M	The recruitment process would thus only commence once the mining right has been awarded and will be guided by Wits Gold's recruitment policies which promote the employment of local labour by the mine as well as by any appointed contractors. The employment of locals should be maximised as far as possible.	8	4	3	4	60	+	M	·n order to recruit as much of the employees locally as possible, a skills audit process should be undertaken. The general practice should be that if the mine is not able to appoint a local person with the necessary skills, they would employ an “outsider”. The intent is to identify local individuals who should be trained to take over the specialised skill from that person.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	Training and skills development policy and programmes to enhance the employability of locals should be initiated during the build-up phase to ensure long term employment benefits.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	A recruitment policy should be adopted to enhance employment positive impacts, limit in-migration of outside jobseekers and mitigate the potential impact of residual in-migration.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	The mine should clearly communicate their anticipated employment figures and job categories to the communities.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	To limit opportunities for conflict and ensure equity in the workplace, it is advised that The Mine follow a transparent process and develop a local employment procedure and recruitment process in consultation with the local municipality and community representatives.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	The safety of women employees should be guaranteed. Pro-active safety measures should be put in place to limit any possible conflict between the male and female employees.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs

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During the operational phase of the mine, the workforce would require accommodation. These employees should be assisted by the mine to achieve home ownership through housing subsidies within the nearest existing residential areas or community systems. This could place some additional pressure on the existing housing infrastructure in the area.	Accommodation of Permanent Workforce	6	3	3	4	48	-	M	As employees would also be recruited locally (whether appointed as contractors or as permanent personnel) it is anticipated that these employees would already own houses within the nearest communities. Those recruited from within the region, however, would require some form of housing subsidy or be compensated for transport costs.	6	3	2	4	44	-	M	Employees should be educated with regards to their accommodation options.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	Housing needs should be monitored and addressed in consultation and cooperation with the local municipality.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	Maximise the employment of locals to limit the need for any additional housing infrastructure, as far as possible.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	Maximise the employment of locals to limit the possibility of informal settlements developing in or near the mine; or in or near existing settlements in the Virginia area.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	Employees from within the region could receive some housing subsidy or be compensated for transport costs. Salary packages should thus address this issue.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
Impact equity refers to fairness of the distribution of the impacts (positive and negative) across the community. Ideally it must be ensured that the people who will benefit from the development must also share in carrying the costs. The project will lead to gain on a regional level, whereas the local people who will be impacted on such as the local farming community will not necessarily benefit in terms of financial benefits and employment opportunities.	Impact equity	6	4	3	4	52	-	M	Should the proposed skills training and development through the Learnership Programmes be undertaken in a comprehensive manner, then some local employees could benefit from this development.	6	4	2	3	36	-	M	Negative impacts on the local property owners should be limited as far as possible such as intrusion impacts (dust, noise, and air pollution). Mitigation measures from the specialist studies dealing with these issues should thus be strictly implemented.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	Safety and security measures are critical to avoid any increase in criminal activities within the local study area.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	Skills training and development should be maximised to benefit as many local employees as possible.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
To ensure local economic development, the the mine should assist the local communities to become involved in the local procurement process by identifying business opportunities and linking SMMEs to these.	Local Economic Contribution and Procurement	6	4	2	4	48	+	M	The mine must formulate a Procurement Policy to provide HDSAs and surrounding communities with a preferred supplier status in all three levels of procurement, namely capital goods, consumables and services. The company is also committed to assist potential HDSA suppliers and SMMEs, through mentoring, to become part of the mine's supply chain.	6	4	3	4	52	+	M	The mine should adopt a Procurement Plan whereby they aim to provide Historically Disadvantaged South Africans (HDSAs) and SMME"s with the opportunity to become involved in the procurement of capital goods, consumables and services. This Plan should be implemented in conjunction with the local municipality and their LED targets. These programmes could focus on providing support and technical advice to entrepreneurs and/or SMMEs to enable them to supply goods and materials for operations at the future mine.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
Although education and training is mainly the responsibility of government, there is increased pressure on the business sector in South Africa to increase the development and skills of their workforce.	Capacity Building and Skills Training	6	4	2	3	36	+	M	In accordance with the Human Resources Development Strategy for South Africa (2010-2030), a Workplace Skills Plan (WSP) will be submitted to the DMR within three months upon mine production. The Mine should ensure that employees have the opportunities to improve their existing qualifications.	6	4	3	4	52	+	M	The WSP will contain the number of employees, levels of skills and types of skills development programs that are developed specifically for the proposed mine and can only be compiled after the workforce for the mine has been sourced.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	The mine should ensure that the quality of life of the employees and their families are improved through the provision of capacity building and skills training programmes.	Prior to operation	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
									The implementation of the Career Development and Progression Plan; the Skills Development Plan; the Mentorship and Coaching Plan; the Internship / Bursary Plan; and Employment Equity Plan should be monitored on an annual basis to ensure that it is comprehensively attended to and implemented as stipulated as part of the updated Social and Labour Plan.								Appoint a specialist to conduct annual audits on the Social and Labour Plan.	Annually	Environmental Control Officer/Project Manager/HR Manager	R 87 500.00
																	The above learnership programmes should be implemented in such a manner that it would ensure statutory compliance, recognition of prior learning and certification according to the South African Qualifications Authority (SAQA) process and requirements.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	Portable skills training should be identified in consultation with the affected employees. The provision of portable skills is critical to prepare employees for possible retrenchments and/or decommissioning.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	·n-house training through learnerships to fill the hard-to-fill vacancies would be crucial for long term capacity building and skills development within the local communities.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	Ensure compliance to Mining Charter and MPRDA through annual audits.	Annually	Environmental Control Officer/Project Manager/HR Manager	R 68 000.00
																	Ensure that HDSA and women are considered and determine the required staff component in this regard.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
The mine will result in social development and social services support through their investments and interventions within the communities through skills training and capacity building, community development projects, infrastructure support as well as local economic development.	Social Development and Social Services Support	6	4	2	3	36	+	M	The mine intends to adhere to corporate responsibility principles, which include fulfilling responsibilities to the communities surrounding the mine and from their labour sending areas. This will be done through the Local Economic Development (LED) programmes, which are a requirement of a SLP for the approval of the DMR.	6	4	3	4	52	+	M	All projects should be designed in line with the local municipality's IDP priorities, and the projects should be proposed on this basis. Projects are thus envisaged to be initiated and sustained by local community members and in this way, the community could build its own skills base and have ownership of projects from the outset.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
									Inputs from the local Department of Health, Department of Agriculture, Department of Education and the district municipality should be obtained to propose and agree on sustainable development projects for implementation by the mine.								Implement a regular and formalised consultation process with local government to ensure synergy between the mine's social development and LED focus, and that of the local municipality.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
Due to the mining industry's general history and negative track-record, the mine is also regarded in this negative light. The mine is therefore perceived as an outside agency that contributes minimally towards benefits for the local community (i.e. farmers). The mine is seen to make decisions that would negatively impact on the neighbouring landowners quality of life which may result in the formation of interest groups against the project due to uncertainty, annoyance and failure to deliver promised benefits to the local community.	Conflict between locals and the mine	8	4	3	4	60	-	M	The mine should embark on a transparent communication process with the surrounding property owners.	6	4	2	3	36	-	M	The establishment of a community forum consisting of representatives of the project proponent, contractors, local leaders such as councillors, the Environmental Control Officer and the property owners could be established. One of the aims of such a forum would be to provide an opportunity and forum for open discussions regarding possible hostile relationships.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
If a large number of outsiders with different values, beliefs and practices migrate to the area during the operational phase and settle within the communities, it could result in the disruption of the existing social networks. Overall, this impact would result in challenges with regards to the provision of infrastructure and services and increased expectations in this regard.	Impact on social networks	8	4	3	3	45	+	M	Embark on regular communication efforts with the community with regards to the mine's involvement in the communities. This could be done through an established forum.	6	4	3	3	39	-	M	The establishment of a community forum consisting of representatives of the project proponent, contractors, local leaders such as councillors, the Environmental Control Officer and the property owners could be established. One of the aims of such a forum would be to provide an opportunity and forum for open discussions regarding possible hostile relationships.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
Construction of the proposed gold mine could impact on property values of surrounding properties.	Change in property values	10	5	2	5	85	-	H	Mitigation measures as proposed by all the specialist studies should be strictly implemented especially those related to impacts that could affect property prices negatively, such as noise, air quality, security and traffic related impacts.	6	4	2	4	48	-	M	The mine will implement all mitigation measures as required in the specialist studies.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
The possible impact on the water quality and quantity are of concern to the neighbouring land owners. The livelihood of the farmers and land owners in the area depends on their water quality and quantity.	Water impacts	8	5	3	4	64	-	H	Water remains a scarce commodity and any decrease in the water tables would result in severe negative impacts on the neighbours activities with subsequent economic losses. The issue of water and the possible impact on the water sources would remain a critical issue and needs to be addressed to avoid social mobilisation against the proposed project.	6	4	2	3	36	-	M	Surface water quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer/Project Manager	R 91 000.00
																	Quarterly surface water monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
The proposed project will have positive impacts on the local municipality as it would ensure continued job creation for the life of mine, continued ore production with resulting regional and local economic benefits and by creating other economic spin-offs benefiting the entire region.	Impact on the Local Municipality	6	4	2	4	48	+	M	The Municipality's input would be required to identify and implement feasible community and social development projects and ensure compliance to the regulations and EMP. The presence of the proposed mine and implementation of social development support would require inputs in terms of the planning processes of the local municipality.	8	4	2	4	56	+	M	Institute a joint municipal coordinating and implementing committee to support the municipality's local economic and social develop needs and requirements, where feasible.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
Occupational health and safety risks associated with mining operations are always a source of concern. Existing health services such as the clinics in nearby towns would come under additional pressure with the growth in the workforce in the area as well as due to the possible increase in the prevalence of HIV/Aids among the local population. The prevalence of HIV/Aids among the mine employees would be a threat to a stable mining environment necessary to sustain operations. If a significant number of mineworkers are affected and are classified as physically unfit, it could lead to lower productivity, increased health related expenses (e.g. health insurance, sick leave, funeral	Health Risks	8	4	2	3	42	-	M	The general health of employees should be monitoring on an on-going basis.	6	3	2	3	33	-	M	HIV / Aids awareness campaigns should be focused on the mine employees.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	Local labour should be employed as far as possible to avoid additional pressure of outsiders on the existing services.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	Environmental pollution must be limited and the mine should be managed and operated according to International Best Practice.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	The mine could assist in implementing a community health awareness plan.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs
																	The mine could, through LED programmes and infrastructure development assist in improving the overall health services within the communities.	On-going	Environmental Control Officer/Project Manager/HR Manager	Included in Social and Labour Plan costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
benefits) and higher training costs to replace workers.																				
Property owners relate the development of mines in the area to the increase in criminal activities within the area due to the increase in outsiders to the current setting. It is thus the viewpoint that the development of the new proposed mine would increase the crime levels within the surrounding area thereby severely affected the quality of life of the property owners.	Safety and Security Risks	8	3	2	4	52	-	M	Strict security measures should be put in place. Security personnel should be on site on a permanent basis.	6	3	2	3	33	-	M	As far as possible, the movement of workers should be confined to the work site to avoid any increased safety and security risks.	During Operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	Before operations commences, representatives from the local municipality and community-based organisations, as well as neighbouring residents should be informed of the details of the size of the workforce and operational schedules.	During Operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	Mining employees should be easily identified as part of the mining team by e.g. wearing specific clothing and/or identity tags.	During Operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	Ensure adequate housing facilities for outside workers and transportation to and from the mine site.	During Operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	Criminal incidents should be communicated to the workforce and mine employees to ensure a general awareness of the safety situation in the area.	During Operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
																	Operational safety risks should be addressed as part of the Occupational Health and Safety Act (1993).	During Operation	Environmental Control Officer/Project Manager/HR Manager	Included in Operational Costs
Issues related to HERITAGE																				
Evidence of 2 sites of archaeological/cultural importance occur within the greater project area. Potential impacts on these must be minimised.	Graves/ grave yards	8	4	2	4	56	-	M	Should it be directly impacted on by the mine the graves may be exhumed and the human remains reburied. Before this may happen the necessary advertising, possible social consultation and permitting applications should be implemented. Should the graves however not be impacted on directly, there will definitely be a secondary impact. The graves should then be fenced in a management plan for the preservation and maintenance thereof be written.	4	3	1	3	24	-	L	It is possible that more cultural sites may be present. Also the subterranean presence of archaeological and/or historical sites, features or artefacts are always a distinct possibility. Care should also be taken when development work commences that if any more artefacts are uncovered, a qualified archaeologist be called in to investigate.	Ongoing	Environmental control officer	N/A
Issues related to WETLANDS																				
Water quality deterioration (e.g. AMD) where contaminated groundwater emerges at surface waterbodies. Typically, salt and metal concentrations will increase and pH will decrease. This may cause a loss of sensitive biota. This impact is likley to be greater after closure than during the operational phase.	Subsidence	10	3	3	4	64	-	H	Do not pump water from underground workings directly into surface water ecosystems, but rather into pollution control facilities. Ensure adequate monitoring. Wetlands should not be undermined, so as to avoid subsidence and pooling of water. At the very least pillar extraction should not take place under any wetlands. Ensure water treatment and pumping facilities are adequately maintained and have adequate capacity.	6	5	3	4	56	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
River banks and dam walls may be destabilised by blasting - especially those banks that have become exposed by cattle watering or alien invasion.	Blasting	6	2	1	4	36	-	M	Implement alien vegetation control programme and protect banks from vegetation removal. Stabilise and rehabilitate unstable dam/river banks in close proximity to blasting areas.	4	2	1	3	21	-	L	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Water that is removed from underground mined areas is effectively removed from the	Decreased flow in rivers/wetlands	10	5	3	4	72	-	H	Wetlands should ideally not be undermined, so as to avoid subsidence and pooling of water. At the very least	8	5	3	3	48	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 1: MINING OF GOLD																				
landscape, resulting in decreased base flows, longer no-flow periods and reduced summer flows as well as longer seasonal drying in temporary pans. Flow-sensitive biota may be lost. Water quality impacts will also be exacerbated.									pillar extraction should not take place under any wetlands. Ensure water treatment and pumping facilities are adequately maintained and have adequate capacity. Ensure water treatment and pumping facilities are adequately maintained and have adequate capacity. Treated water should ideally be returned to surface ecosystems (if compliant with water quality requirements) in a diffuse way that does not cause erosion or result in sudden changes in flows. Flow rates in rivers should be monitored and should comply with DWA recommendations.										
Undermining of wetlands could result in wetland loss and degradation where surface subsidence occurs. Fractures in the strata underlying the wetlands could result in loss of surface water to groundwater, leading to decreased base flows, desiccation of wetlands and changes in species composition.	Subsidence	8	5	3	3	48	-	M	Wetlands should ideally not be undermined, so as to avoid subsidence and pooling of water that can cause AMD. At the very least pillar extraction should not take place under any wetlands. Ensure water treatment and pumping facilities are adequately maintained and have adequate capacity. Monitor flows in rivers and valley bottom wetlands to comply with DWA recommendations.	6	5	3	2	28	-	L	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Decreased abundance and diversity of aquatic biota due to changes in water quality and flows.	Loss of biodiversity	8	5	3	4	64	-	H	Apply all mitigation above. Water quality monitoring and biomonitoring should be implemented throughout the operational phase and non-compliance with target values should trigger immediate auditable interventions.	6	5	3	3	42	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan. Obtain a Certificate of Registration from the NNR.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-8: Impacts and Management Measures for Operational Phase Activities: Product Stockpiling

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 2: STOCKPILING																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
The stockpiling of material will impact on the micro and macro topography due to the establishment of the stockpiles.	Stockpiles	8	4	2	4	56	-	M	Stockpile heights will be restricted as far as practically possible.	4	4	2	3	30	-	M	Determine the height restriction for stockpile and implement.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
									Stockpiles will only be placed within the designated mine area boundaries.								The visual management measures as incorporated during the construction phase will be maintained during the operational phase.	Ongoing	Project Manager	Included in Operational Costs
Issues related to GEOHYDROLOGY																				
Impacts on the groundwater regime as a result of infiltration.	Water infiltration	8	4	2	4	56	-	M	Clean water needs to be kept away from the stockpiling area to minimise water infiltrating from the site. Keep stockpiles as small as possible, to minimise their footprint.	4	4	1	3	27	-	L	Optimal operation and maintenance of clean and dirty water system will be conducted.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Seepage into underlying aquifer.	Groundwater contamination	8	5	3	4	64	-	H	Bunded or compacted stockpile footprint areas. Concrete slabs with seepage control measures and storm water management.	8	4	2	2	28	-	L	Divert seepage and run-off to dirty return water dams	Rainfall events	Plant Engineer	Included in Operational Costs
Issues related to HYDROLOGY																				
Stockpiling could lead to runoff from stockpiles and rainfall could start to seep into the stockpiles which could then impact on the clean water resources.	Water quality	8	4	2	4	56	-	M	Water associated with stockpiles will be dirty water and therefore has to be channelled and contained in a PCD. A clean water diversion berm and cut-off trench must be constructed upstream from all dirty water delineated areas. Dirty water areas must be kept as small as possible.	4	3	2	3	27	-	L	Optimal operation and maintenance of clean and dirty water system will be conducted.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
									All contaminated surface water run-off to be contained within a downstream lined pollution control dam. These structures should be located well away from surface water resources and drainage lines.								Ensure optimal operation and maintenance of clean and dirty water system and erosion control measures.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
									WUL requirements must be adhered to.								Quarterly performance assessment reviews will be conducted against the conditions listed in the approved Water Use Licence.	Quarterly	Environmental control officer/Project Manager	Included in Operational Costs
									A silt trap to be installed at the inflow of the pollution control dam as to collect all suspended solids and prevent the dam from losing its design capacity through siltation.								The silt trap to be regularly inspected and cleaned to ensure optimum functioning.	Weekly	Environmental control officer/Project Manager	Included in Operational Costs
																	Designs of the separation structures to be undertaken in terms of GN704.	Prior to operation	Environmental control officer/Project Manager	Included in Operational Costs
																	Designs of the pollution control dams to be undertaken in terms of GN704.	Prior to operation	Environmental control officer/Project Manager	Included in Operational Costs
Vehicular activity on haul roads will give rise to dust deposition that will lead to siltation and diffuse pollution of the water bodies in the mining area. Vehicular movement could negatively impact on the surface (haul road) runoff and contaminate this outside the dirty water catchment.	Pollution	8	4	2	5	70	-	H	Ensure optimal operation and maintenance of clean and dirty water system and the erosion control measures.	4	4	1	3	27	-	L	Road wetting/dust suppression measures to prevent siltation must be in place.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
																	Isolating stockpiles (topsoil and overburden) by means of trenches to contain dirty water associated with them and diversion berms to allow the clean water to report to the clean catchment.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
																	An ongoing storm water management plan is required in order to effectively	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 2: STOCKPILING																				
																	manage the separation of clean and dirty water.			
																	Cut-off berms to prevent siltation must be in place around all disturbed areas	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
																	Overburden should be layered with topsoil (0.3 m) and covered with vegetation to reduce erosion of topsoil.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Clean surface run-off water entering the storage stockpile area and becoming contaminated.	Contaminated run-off	8	4	2	4	56	-	M	Clean and dirty water separation system to be constructed upstream from the stockpile area and divert clean water around the stockpile area as to prevent it from entering the area.	6	4	2	3	36	-	M	Ensure optimal operation and maintenance of clean and dirty water system and the erosion control measures.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Rainwater falling onto the stockpile area and causing areas of ponding.	Ponding	6	3	2	3	33	-	M	Sloping of the area is required in order to divert contaminated storm water to a pollution control collection facility purposely designed in terms of GN704. Design should be based on a number of years rainfall record and allow for the wettest year and a freeboard of 0.8 m above the full water supply level. This dam must be operated as empty.	4	2	2	2	16	-	L	Ensure optimal operation and maintenance of clean and dirty water system and the erosion control measures.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Polluted runoff and drainage from stckpiles could pollute water resources.	Stockpiles	6	5	3	4	56	-	M	An appropriate set of drains contain runoff and divert same into a designed pollution control dam.	4	4	1	1	9	-	L	Ensure that dirty water is diverted to the pollution control dam.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Soil compaction	Construction of infrastructure	2	4	6	4	48	-	M	Keep infrastructure localized to reduce footprint	2	4	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Soil physical and chemical degradation as result of stockpiles and spillages during operations.	Stockpiles	8	3	2	4	52	-	M	There will be an incident management system including procedures and training for dealing with incidents. Major spillage incidents will be reported to the DMR, DWA, DEA and the Department of Agriculture. Appropriate remedial measures will be implemented in consultation with these regulatory authorities.	6	3	2	3	33	-	M	A detailed waste management strategy will be established and implemented.	During operational phase and ongoing	Environmental control officer/Project Manager	Included in Operational Costs
									If spills do occur and soils become contaminated, the appropriate remedial measures will be identified in consultation with an appropriate qualified specialist. If necessary, the polluted soils will be classified as waste and will be discarded at an appropriate permitted waste site. After the removal of the contaminated soils, the affected areas will be landscaped and rehabilitated.								Waste should be removed by licensed waste disposal companies.	During operational phase and ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Issues related to FAUNA AND FLORA																				
Loss or disruption of mammal migration routes.	Stockpiles	8	5	3	2	32	-	M	Prevent access and impacts within areas of high ecological sensitivity; control vehicle movement.	8	5	3	1	16	-	L	Develop an environmental monitoring plan aimed at identifying and addressing issues of concern and include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Direct impacts on sensitive/pristine habitat types.	Stockpiles	8	5	3	2	32	-	M	Prevent access and impacts within areas of high ecological sensitivity.	8	5	3	1	16	-	L	Develop an environmental monitoring plan aimed at identifying and addressing issues of concern and include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 2: STOCKPILING																				
Direct impacts on common fauna species of the study area.	Stockpiles	4	4	2	4	40	-	M	Prevent access and impacts within areas of high ecological sensitivity; control vehicle movement.	4	4	2	2	20	-	L	Develop and implement awareness programmes and prevent persistent and deliberate impacts on animals in nearby natural habitats.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Faunal interaction with structures, servitudes and/or personnel.	Stockpiles	6	4	2	4	48	-	M	Ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; limit speeds of vehicles; avoid open waste areas that could be targeted by rodents and scavengers.	6	4	2	2	24	-	L	Develop and implement awareness programmes and prevent persistent and deliberate impacts on animals in nearby natural habitats.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Impacts on surrounding habitat/species, including ecosystem functioning.	Stockpiles	4	4	2	4	40	-	M	Prevent spread of construction related impacts to nearby areas of natural habitat; control runoff from stockpiles.	4	4	2	3	30	-	M	Develop and implement awareness programmes; provide adequate waste disposal facilities; manage operational issues with regard to hygiene, ablution and food provision; develop hydrocarbon spill reaction and cleanup action plans.	Seasonal/Bi-annual	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Issues related to AIR QUALITY																				
Fugitive dust emissions from stockpiles will have a negative air quality impact.	Stockpiles	8	4	3	4	60	-	M	Dust suppression methods must be implemented around the stockpiling areas and transfer stations and it is recommended that a dust monitoring network be established to monitor levels of dust dispersion. Should it be found that the stockpiles create excessive dust, measures must be implemented to reduce this impact.	6	4	2	3	36	-	M	Ensure optimal implementation and maintenance of the dust suppression programme and monitoring programme.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
All activities associated with mining has the potential to release dust.	Stockpiles	8	4	3	4	60	-	M	A dust monitoring network must be set up prior to the construction phase so that any air quality or dust issues can be addressed accordingly.	4	4	2	3	30	-	M	Dust sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental control officer	R 92 000.00
																	Monthly monitoring reports will be generated by the mine or through a suitably qualified air quality specialist.	Monthly	Environmental control officer/Air Quality Specialist	R 42 000.00
																	In the event that air quality or dust issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Air Quality Specialist	To be determined - depending on severity of incident
																	Ensure optimal implementation and maintenance of the dust suppression programme .	Ongoing	Environmental control officer	Included in Operational Costs
																	The road surface to be maintained on a weekly basis.	Weekly	Environmental control officer	Included in Operational Costs
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
Transportation of product from the mine area to the plant and stockpiles will cause a noise disturbance.	Stockpiles	8	4	3	4	60	-	M	Ore to be transported with road-worthy vehicles that are well maintained and a speed limit of 40 k m/h to be maintained.	8	4	2	3	42	-	M	Draw up an implement a vehicle inspection and service programme.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
									Gravel road to be maintained as a good and smooth surface at all times.								The road surface to be maintained on a weekly basis.	Weekly	Environmental control officer/Project Manager	Included in Operational Costs
Issues related to VISUAL																				
Fugitive dust emissions from the stockpiles will have a negative visual impact.	Stockpiles	8	4	3	4	60	-	M	Dust suppression methods must be implemented around the stockpiling areas and transfer stations and it is recommended that a dust monitoring	4	4	2	3	30	-	M	Ensure optimal implementation and maintenance of the dust suppression programme and monitoring programme.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 2: STOCKPILING																				
									network be established to monitor levels of dust dispersion. Should it be found that the stockpiles create excessive dust, measures must be implemented to reduce this impact.											
Issues related to SOCIAL																				
Fugitive dust emissions from the stockpiles will have a negative social impact.	Stockpiles	8	4	3	4	60	-	M	Dust impacts will be considered as more of a nuisance than a health impact. Dust suppression methods must be implemented around the stockpiling areas and transfer stations and it is recommended that a dust monitoring network be established to monitor levels of dust dispersion. Should it be found that the stockpiles create excessive dust, measures must be implemented to reduce this impact.	4	4	2	3	30	-	M	Ensure optimal implementation and maintenance of the dust suppression programme and monitoring programme.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Dust from stockpiles, trucks and roads may be flushed or blown into the surface waters. This would lead to increased turbidity (decreased water quality) and sedimentation of wetlands. In addition, dust from the stockpile may cause a salinisation of surface waterbodies, either directly or indirectly via seepage. This may lead to a deterioration in biotic integrity and loss of sensitive biota.	Deterioration in water quality	8	4	3	4	60	-	M	The product stockpiles must be located within the dirty water ara of the mine and all runoff from the stockpiles should be captured in the dirty water system. No dirty water may be discharged into any wetland or water resource on site unless treated to the required standards. Overloading of trucks must be prohibited and strictly enforced to reduce spillages. Dust control measures must be employed. Runoff from the vehicle washbays must be directed into the dirty water system and oil effectively trapped. Spills should be prevented and an emergency preparedness plan should be compiled to address major spills. Ensure adequate pollution control measures (trenches, linings, pollution control dams, etc.) to be in place so as to contain dirty storm water and seepage. Should monitoring (biomonitoring, groundwater or surface water monitoring or environmental audits) detect any signs of pollution, detailed investigations need to be initiated.	4	4	3	3	33	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Seepage of pollutants (especially acid mine drainage) into groundwater and then running into surface waters (AMD is characterised by high salinities and metal concentrations).	Water pollution	8	4	3	4	60	-	M	Ensure adequate pollution control measures (trenches, linings, pollution control dams, etc.) to be in place so as to contain dirty storm water and seepage. Should monitoring (biomonitoring, groundwater or surface water monitoring or environmental audits) detect any signs of pollution, detailed investigations need to be initiated.	6	4	3	3	39	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-9: Impacts and Management Measures for Operational Phase Activities: Clean and Dirty Water Separation Infrastructure

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 3: CONTROL OF CLEAN AND DIRTY WATER SEPARATION INFRASTRUCTURE																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Poor quality seepage may occur into the underlying strata if the dams are situated on permeable soil formation or on a groundwater flow path like dykes and/or fauls systems. Overflow of dams can also result in down-stream contamination of surface water bodies and seepage into groundwater.	Pollution control dams	6	4	2	3	36	-	M	Lining of all pollution control dams will be undertaken by the mine. Dam levels will be kept at the required levels (refer to GN 704).	4	3	1	2	16	-	L	Pollution control dams will be inspected regularly to monitored and mitigate the possibility of seepage.	Weekly	Environmental Control Officer/Project Manager	Included in Operational Costs
																	Maintenance and operation of clean and dirty water system will be ensured at all times	Ongoing	Environmental Control Officer/Project Manager	Included in Operational Costs
									Groundwater quality monitoring networks must be set up prior to the construction phase so that any groundwater quality and quantity issues can be addressed accordingly.	6	4	2	3	36	-	M	Groundwater quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer/Project Manager	R 91 000.00
																	Quarterly groundwater monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality or quantity issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Seepage of dirty water into underlying aquifer.	Groundwater contamination	8	5	3	4	64	-	H	Lining of dirty water retention facilities	8	4	2	2	28	-	L	Monitor lining of the dirty return water dams & facilities	Monitor during low water conditions	Mine Environmental Unit & Plant Engineer	Included in Operational Costs
Issues related to HYDROLOGY																				
Reduction in catchment yield. Stream flow reduction will be caused by separating the clean and dirty water through berms and trenches.	Clean and dirty water separation infrastructure	6	3	2	4	44	-	M	Ensure the dirty water catchment area is as small as possible to avoid unnecessary losses to the stream flow.	4	3	2	3	27	-	L	Maintenance and operation of clean and dirty water system and erosion control measures will be ensured at all times	Ongoing	Environmental Control Officer/Project Manager	Included in Operational Costs
																	A dynamic water and salt balance will be drawn up by the mine prior to commencing with operational activities.	Monthly	Environmental Control Officer/Project Manager	Included in Operational Costs
									Surface water quality monitoring networks must be set up prior to the construction phase so that any surface water quality issues can be addressed accordingly.	6	4	2	3	36	-	M	Surface water quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Quarterly	Environmental control officer/Water Quality Specialist	R 91 000.00
																	Quarterly surface water monitoring reports will be generated by the mine or through a qualified water quality specialist.	In the event of occurrence	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	Prior to operational activities	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Runoff from clean water areas if allowed to flow into the dirty water footprint area could mix with polluted water and overflow into	Clean and dirty water separation infrastructure	4	4	3	3	33	-	M	A designed system of berms and drains seperating clean and dirty water and allowing clean water to pass into local streams must be established.	4	4	2	1	10	-	L	Ensure that adequate stormwater management measures and clean and dirty separation mechanisms are implemented on site.	Ongoing	Environmental control officer	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 3: CONTROL OF CLEAN AND DIRTY WATER SEPARATION INFRASTRUCTURE																				
river systems or reduce flow into local river systems.																				
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Chemical soil pollution	Spillage and seepage of wastewater	2	5	8	5	75	-	H	Proper chemical waste management	1	3	4	4	32	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs
Change in natural landscape	Ground clearance and waste disposal	1	5	6	5	60	-	M	Keep infrastructure to a minimum to reduce footprint	1	5	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs
Stream flow reduction will be caused by separating the clean and dirty water through berms and trenches.	Clean and dirty water separation infrastructure	8	3	2	4	52	-	M	Discharge points for clean storm water and treated effluent should include erosion protection measures as well as energy dissipaters and should release flows in a diffuse manner to encourage dispersion.	4	3	1	3	24	-	L	Optimum operation and maintenance of control measures will be conducted to ensure proper flow of clean water from the site.	Ongoing	Environmental control officer	Included in Operational Costs
Issues related to FAUNA AND FLORA																				
Loss or disruption of mammal migration routes.	Overall mining activities	8	5	3	2	32	-	M	Prevent access and impacts within areas of high ecological sensitivity; control vehicle movement; prevent standing and open water.	8	5	3	1	16	-	L	Develop an environmental monitoring plan aimed at identifying and addressing issues of concern and include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Direct impacts on sensitive/pristine habitat types.	Overall mining activities	8	5	3	2	32	-	M	Prevent access and impacts within areas of high ecological sensitivity.	8	5	3	1	16	-	L	Develop an environmental monitoring plan aimed at identifying and addressing issues of concern and include relevant aspects in awareness training.	Seasonal/Bi-annual	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Direct impacts on common fauna species of the study area.	Overall mining activities	4	4	2	4	40	-	M	Prevent access and impacts within areas of high ecological sensitivity; control vehicle movement; prevent standing and open water.	4	4	2	2	20	-	L	Develop and implement awareness programmes and prevent persistent and deliberate impacts on animals in nearby natural habitats.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Faunal interaction with structures, servitudes and/or personnel.	Overall mining activities	6	4	2	4	48	-	M	Ensure minimal human/animal conflict potential; implement awareness programmes; control movement of personnel; limit speeds of vehicles; prevent standing and open water; avoid open waste areas that could be targeted by rodents and scavengers.	6	4	2	2	24	-	L	Develop and implement awareness programmes and prevent persistent and deliberate impacts on animals in nearby natural habitats.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Impacts on surrounding habitat/species, including ecosystem functioning.	Overall mining activities	4	4	2	4	40	-	M	Prevent spread of construction related impacts to nearby areas of natural habitat; prevent effluents from impacting nearby natural habitat.	4	4	2	3	30	-	M	Develop and implement awareness programmes; provide adequate waste disposal facilities; manage operational issues with regard to hygiene, ablution and food provision; develop hydrocarbon spill reaction and cleanup action plans.	Seasonal/Bi-annual	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Issues related to AIR QUALITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 3: CONTROL OF CLEAN AND DIRTY WATER SEPARATION INFRASTRUCTURE																				
Possibility of decreasing water quality or quantity.	Overall mining activities	10	4	2	3	48	-	M	Surface and groundwater quality monitoring networks must be set up prior to the construction phase so that any surface water quality issues can be addressed accordingly.	6	4	2	3	36	-	M	Surface and groundwater quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer/Project Manager	R 91 000.00
																	Quarterly surface and groundwater monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Storm water runoff may contain contaminated dust, contaminated minewater, sewage treatment effluent, spills (e.g toxic products or hazardous waste such as oils and fuels in workshops & stores) may lead to pollution of freshwater ecosystems, with a consequent loss of biota or integrity. Seepage of pollutants into groundwater may eventually find its way into surface waterbodies.	Deterioration in water quality	8	3	3	5	70	-	H	Clean and dirty water must at all times be separated. Clean water should be diverted around dirty areas and returned to the natural water resources. Dirty water systems should meet the requirements of GN704 as a minimum. Current sources of pollution should be addressed appropriately (e.g. treatment plants, lining of pollution control dams). No dirty water may be discharged unless treated to meet the applicable standards and under authorisation from the DWA. Maintain biomonitoring programme (ensure the inclusion of toxicity testing to determine their potential risk to the aquatic fauna should they be released/spilled and to enable the determination of safe dilution factors for releases.	6	3	3	2	24	-	L	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-10: Impacts and Management Measures for Operational Phase Activities: Generation and waste handling

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 4: GENERATION AND HANDLING OF WASTE																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Potential groundwater contamination	Waste rock	6	4	1	3	33	-	M	Compaction of base, stormwater management in lined PCD	3	4	1	0	0	-	L	Groundwater quality monitoring	Quarterly	Mine Environmental Manager	Included in Operational Costs
Groundwater contamination, potential impact downstream receptors	TSF	8	5	2	5	75	-	H	TSF water management to minimise infiltration (low rate of rise - more evaporation), lined return water dam	8	4	1	4	52	-	M	Groundwater quality monitoring	Monthly	Mine Environmental Manager	Included in Operational Costs
Issues related to HYDROLOGY																				
The generation of waste may lead to surface water contamination.	Waste generation	8	4	2	4	56	-	M	Surface water quality monitoring networks must be set up prior to the construction phase so that any surface water quality issues can be addressed accordingly.	6	4	2	3	36	-	M	Surface water quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental control officer	R 91 000.00
																	Quarterly surface water monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Disposal of any type of waste to an area with a waste skip.	Waste generation	8	2	2	5	60	-	M	A dedicated area for the placement of waste skips must be determined prior to operational activities, and the area will to be cemented. Allowance for keeping clean water run-off away from the skip area through the correct bunding design.	4	2	1	2	14	-	L	The mine will adopt a cradle-to-grave approach to ensure that the waste is removed and disposed of in a prescribed/correct manner, and must be stored in a designated area as part of the waste management strategy. Waste generated will be collected and disposed of in a licensed waste facility and a copy of the valid waste disposal permits will be kept on site.	Ongoing	Environmental control officer	Included in Operational Costs
Waste generated at the mine could pollute local water resources.	Waste generation	6	4	2	3	36	-	M	Control the storage, handling and safe disposal of waste.	4	4	1	1	9	-	L	The mine will adopt a cradle-to-grave approach to ensure that the waste is removed and disposed of in a prescribed/correct manner, and must be stored in a designated area as part of the waste management strategy.	Ongoing	Environmental control officer	Included in Operational Costs
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Chemical soil pollution	Spillage and seepage of wastewater	2	5	8	5	75	-	H	Proper chemical waste management	1	3	4	4	32	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs
Change in natural landscape	Ground clearance and waste disposal	1	5	6	5	60	-	M	Keep infrastructure to a minimum to reduce footprint	1	5	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs
The generation of waste may lead to soil contamination.	Waste generation	8	2	2	5	60	-	M	Monitoring of waste generation and soil contamination must be implemented and maintained.	4	2	2	3	24	-	L	In the event that soil contamination occurs, immediate soil clean-up should be undertaken.	In the event of occurrence	Environmental control officer	To be determined - depending on severity of incident
Issues related to FAUNA AND FLORA																				
Loss or disruption of mammal migration routes.	Waste generation & handling	4	4	3	2	22	-	L	Develop dedicated waste handling areas; prevent access to rodents and	4	4	3	1	11	-	L	Develop control measures; develop a monitoring plan; implement an	Ongoing	Environmental control officer/Health &	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 4: GENERATION AND HANDLING OF WASTE																				
									opportunistic species; prevent the spread of waste.								awareness programme; and provide adequate waste disposal facilities.		Safety officer/ Ecologist/ Proponent	
Direct impacts on sensitive/pristine habitat types.	Waste generation & handling	6	4	3	3	39	-	M	Develop dedicated waste handling areas; prevent the spread of waste.	6	4	3	2	26	-	L	Develop control measures; develop a monitoring plan; implement an awareness programme; and provide adequate waste disposal facilities.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Direct impacts on common fauna species of the study area.	Waste generation & handling	6	4	2	3	36	-	M	Develop dedicated waste handling areas; prevent access to rodents and opportunistic species; prevent the spread of waste.	6	4	2	2	24	-	L	Develop control measures; develop a monitoring plan; implement an awareness programme; and provide adequate waste disposal facilities.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Faunal interaction with structures, servitudes and/or personnel.	Waste generation & handling	4	4	2	4	40	-	M	Develop dedicated waste handling areas; prevent access to rodents and opportunistic species; prevent the spread of waste.	4	4	2	2	20	-	L	Develop control measures; develop a monitoring plan; implement an awareness programme; and provide adequate waste disposal facilities.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Impacts on surrounding habitat/species, including ecosystem functioning.	Waste generation & handling	4	4	2	3	30	-	M	Develop dedicated waste handling areas; prevent the spread of waste.	4	4	2	2	20	-	L	Develop control measures; develop a monitoring plan; implement an awareness programme; provide adequate waste disposal facilities; and implement waste sortingand the re-use of materials.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Contractor/Site Manager	Included in Operational Costs
Issues related to AIR QUALITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
The generation of waste may lead to surface water and/or soil contamination affecting neighbouring residents.	Waste generation	6	4	2	3	36	-	M	Surface and groundwater quality monitoring networks must be set up prior to the construction phase so that any surface water quality issues can be addressed accordingly.	4	3	1	3	24	-	L	Surface and groundwater quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer/Project Manager	R 182 000.00
																	Quarterly surface and groundwater monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 84 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 4: GENERATION AND HANDLING OF WASTE																				
Water quality deterioration related to accidental spills during general operational activities (fuels, cement, etc). Storm water flushing contaminated areas as well as dust can carry pollutants into water bodies either directly or indirectly via groundwater. Water quality deterioration will especially affect aquatic fauna intolerant to water quality alteration but can have an impact on all aquatic fauna (especially fuel and sewage spills).	Spillages	10	4	3	4	68	-	H	Designated waste handling and storage facilities must be put in place at the start of the construction phase. These facilities must be located on bunded areas that do not allow seepage of pollutants into the ground or the run-off of polluted water. All waste must be disposed off in registered waste disposal facilities. The waste facilities should be located within the dirty water area of the mine.Identify potential areas where seepage and spills can occur into the natural environment. Take necessary precautions to reduce potential spills and seepage. Ensure that hazardous substances (e.g. fuels) do not wash into drains or nearby waterbodies. Maintain aquatic biomonitoring programme. Hazardous waste should be responsibly disposed of by a certified service provider. An emergency preparedness plan should be compiled detailing required actions in case of spills or leaks. Any spill/leak incidents should be followed up by auditable actions.	6	4	3	2	26	-	L	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Increased hazardous waste (e.g. PVC, tyres, hydrocarbons, etc)	Hazardous waste	8	4	3	4	60	-	M	Hazardous waste should be responsibly stored (in bunded/cemented areas) and disposed of by a certified service provider. The generation of hazardous waste should be minimised and recycling implemented as far as possible (e..g oil recycling).	2	2	1	2	10	-	L	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-11: Impacts and Management Measures for Operational Phase Activities: Hydrocarbon storage

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 5: HYDROCARBON STORAGE AND HANDLING																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY AND HYDROLOGY																				
The use of diesel, oil and other hazardous chemical substances may lead to the contamination of surface and groundwaer resources. Storage of fuel, lubricants and explosives may lead to hydrocarbon contamination by diesel and oil spillages during the re-fuelling and movement (on and off site, and the workshop area) of mining trucks. The storage of explosives may cause contamination of the water resources when there are leaks or seepage of chemicals.	Hydrocarbon storage and handling	8	4	2	4	56	-	M	Non mining waste that include, but are not limited to, grease, lubricants, paints, flammable liquids, garbage, abandoned machinery and other combustible materials generated during activities should be placed and stored in a controlled manner in a designated area.	4	3	1	3	24	-	L	Regular safety checks and maintenance of the storage tanks should be undertaken by suitably qualified safety officers.	Weekly	Environmental control officer	Included in Operational Costs
									All hydrocarbons should be stored in designated, bunded areas with a capacity of at least 110% of the volume stored.								Conduct inspections to determine if there are any compromises to the bunded facility.	Weekly	Environmental control officer	Included in Operational Costs
									Bunded areas should not allow seepage of pollutants into the ground or the run-off of polluted water.								Any rainfall and storm water collected within the bunded area should remain separate from other storm water and will need to be treated to an acceptable level prior to release.	Weekly	Environmental control officer	Included in Operational Costs
									Spill kits should be readily available and all employees must be trained in the utilisation thereof.								Inspect the availability and content of the spill kits in all areas of the operation.	Weekly	Environmental control officer	Included in Operational Costs
									Should a spill take place the area should be cleaned immediately and the contaminated area will be rehabilitated as appropriate.								Employees to report hydrocarbon spills that took place at the end of their shift to their supervisor, in order to record all spills.	End of shift	Supervisor	Included in Operational Costs
									Employees will be educated by means of training and the Environmental Awareness Plan to make them aware of the necessity to prevent spillages by the implementation of good housekeeping practices.								Employees must undergo induction and training in terms of the Environmental Awareness Plan.	Prior to appointment	Environmental control officer	Included in Operational Costs
									The management of chemicals and hydrocarbons should form part of the Emergency Response Programme.								Employees must undergo induction and training in terms of the Emergency Response Programme .	Prior to appointment	Environmental control officer	Included in Operational Costs
									In the event of a major spill that could result in major soil and water contamination the DWA should be informed immediately and a remediation strategy should be enforced.								Ensure that all Material Data Sheets (MSDS) is available for all material stored, and displayed properly.	Ongoing	Environmental control officer	Included in Operational Costs
									No activities associated with hydrocarbons and or chemicals (i.e. wash bays etc.) may be undertaken outside of an effectively designed contained area.								Employees must undergo induction and training in terms of the Emergency Response Programme .	Prior to appointment	Environmental control officer	Included in Operational Costs
Spillage and contamination of runoff water.	Stormwater management	8	4	3	4	60	-	M	Containment and transfer of 'dirty' water to a PCD	6	3	2	3	33	-	M	Ensure an appropriate stormwater management plan is in place on site.	Ongoing	Environmental control officer	Included in Operational Costs
Fuel storage areas not included in securely bunded area on site.	Fuel spillage	8	3	2	5	65	-	H	Construct bunded fuel storage area's	6	2	2	2	20	-	L	Report all spillages and expedite clean-up thereof.	On occurrence	Environmental control officer	Included in Operational Costs
Spills of hydrocarbons could mix with runoff water and pollute water resources.	Stormwater management	6	4	3	3	39	-	M	A suitable oil trap must be installed to remove hydrocarbons from runoff water and stores same for safe disposal off-site.	4	4	2	1	10	-	L	Inspect oil trap and storage of oil captured for disposal.	Daily	Environmental control officer	Included in Operational Costs
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 5: HYDROCARBON STORAGE AND HANDLING																				
The use of diesel, oil and other hazardous chemical substances may lead to the contamination of soils.	Hydrocarbon storage and handling	8	3	2	3	39	-	M	Non mining waste that include, but are not limited to, grease, lubricants, paints, flammable liquids, garbage, abandoned machinery and other combustible materials generated during activities should be placed and stored in a controlled manner in a designated area.	6	2	1	3	27	-	L	Regular safety checks and maintenance of the storage tanks should be undertaken by suitably qualified safety officers.	Weekly	Environmental control officer	Included in Operational Costs
									All hydrocarbons should be stored in designated, bunded areas with a capacity of at least 110% of the volume stored.								Conduct inspections to determine if there are any compromises to the bunded facility.	Weekly	Environmental control officer	Included in Operational Costs
									Bunded areas should not allow seepage of pollutants into the ground or the run-off of polluted water.								Any rainfall and storm water collected within the bunded area should remain separate from other storm water and will need to be treated to an acceptable level prior to release.	Weekly	Environmental control officer	Included in Operational Costs
									Spill kits should be readily available and all employees must be trained in the utilisation thereof.								Inspect the availability and content of the spill kits in all areas of the operation.	Weekly	Environmental control officer	Included in Operational Costs
									Should a spill take place the area should be cleaned immediately and the contaminated area will be rehabilitated as appropriate.								Employees to report hydrocarbon spills that took place at the end of their shift to their supervisor, in order to record all spills.	End of shift	Supervisor	Included in Operational Costs
									Employees will be educated by means of training and the Environmental Awareness Plan to make them aware of the necessity to prevent spillages by the implementation of good housekeeping practices.								Employees must undergo induction and training in terms of the Environmental Awareness Plan.	Prior to appointment	Environmental control officer	Included in Operational Costs
									The management of chemicals and hydrocarbons should form part of the Emergency Response Programme.								Employees must undergo induction and training in terms of the Emergency Response Programme .	Prior to appointment	Environmental control officer	Included in Operational Costs
									In the event of a major spill that could result in major soil and water contamination the DWA should be informed immediately and a remediation strategy should be enforced.								Ensure that all Material Data Sheets (MSDS) is available for all material stored, and displayed properly.	Ongoing	Environmental control officer	Included in Operational Costs
									No activities associated with hydrocarbons and or chemicals (i.e. wash bays etc.) may be undertaken outside of an effectively designed contained area.								Employees must undergo induction and training in terms of the Emergency Response Programme .	Prior to appointment	Environmental control officer	Included in Operational Costs
Issues related to FAUNA AND FLORA																				
Direct impacts on sensitive/pristine habitat types.	Storage & spillage	6	4	2	5	60	-	M	Develop proper storage & maintenance areas; ensure adequate bunding; use driptrays extensively; ensure spill clean-up packs and method guidance is provided.	6	4	2	3	36	-	M	Develop an action plan for the storage of hydrocarbons; implement preventative measures during filling and maintenance; develop action procedures in the event of a spill including reporting, cleaning, and rehabilitation; implement constant evaluation of systems and operational vehicles.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Impacts on surrounding habitat/species, including ecosystem functioning.	Storage & spillage	6	4	2	5	60	-	M	Develop proper storage & maintenance areas; ensure adequate bunding; use driptrays extensively; ensure spill clean-up packs and method guidance is provided.	6	4	2	3	36	-	M	Develop an action plan for the storage of hydrocarbons; implement preventative measures during filling and maintenance; develop action procedures in the event of a spill including reporting, cleaning, and rehabilitation; implement constant evaluation of systems and operational vehicles.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 5: HYDROCARBON STORAGE AND HANDLING																				
The handling and storage of fuel and flammable chemicals creates a fire risk.	Fire risk	8	5	2	4	60	-	M	There shall be an emergency preparedness plan is in place in order to fight accidental fires should they occur.	6	2	1	3	27	-	L	Employees must undergo induction and training in terms of the Emergency Response Programme .	Prior to appointment	Environmental control officer	Included in Operational Costs
									There must be sufficient fire-fighting equipment. This equipment must fulfil the South African Occupation Health and Safety requirements.								Inspect the availability of the fire fighting equipment and ensure it is in working order.	Weekly	Environmental control officer	Included in Operational Costs
									All vegetation adjacent to the fuel storage tanks will be continually removed.								Conduct regular inspection and removal of vegetation around bunded areas.	Weekly	Environmental control officer	Included in Operational Costs
									The induction and awareness programmes will address fire-related issues.								All provisions relating to fire safety will be related during the induction and awareness training programme.	Prior to appointment	Environmental control officer	Included in Operational Costs
Faunal interactions with infrastructure, structures, servitudes and personnel.	Hydrocarbon storage and handling	4	5	3	4	48	-	M	It is likely that the animals will move to the surrounding areas when the construction activities start. The animals will move back once mining activities have ceased and rehabilitation has taken place. Rehabilitation will assist in the natural relocation of animals back into the area after mining.	4	5	3	2	24	-	M	Ensure that no animals are unnecessary hurt or influenced by the construction activities. No animals may be caught, hunted or poached. implement a strict penalty system for non-compliance	During construction phase	Environmental Control Officer/ Project Manager	Included in Operational Costs
Impacts on surrounding habitat or species, including ecosystem functioning	Hydrocarbon storage and handling	8	4	3	3	45	-	M	Construction activities should be limited to the designated areas.	8	4	2	3	42	-	M	Markers and pegs will be erected and maintained along the boundaries of the working areas, access roads, haul roads and paths before commencing any work. If proved insufficient for control, these shall be replaced by fencing.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in Operational Costs
Increase in environmental degradation, pollution (air, soils, surface water)	Hydrocarbon storage and handling	4	5	3	4	48	-	M	Construction activities should be limited to the designated areas.	4	4	2	3	30	-	M	Markers and pegs will be erected and maintained along the boundaries of the working areas, access roads, haul roads and paths before commencing any work. If proved insufficient for control, these shall be replaced by fencing.	During construction phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in Operational Costs
Issues related to AIR QUALITY																				
Fugitive VOCs	Diesel storage	2	4	1	2	14	-	L	Appropriate design and air emissions licence application if necessary.	2	4	1	1	7	-	L	Design appropriate bunding. Apply for AEL if >500 m3	Once	Design Engineer/Environmental Control Officer	R 20 000.00
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
The handling and storage of fuel creates a fire risk. Please refer to the Fauna and Flora section for impacts associated with fire risk.	Fire risk	0	0	0	0	0	N	N	Please refer to the Fauna and Flora section for management measures and action plans associated with fire risk as a result of flammable chemical storage.	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
The use of diesel, oil and other hazardous chemical substances may lead to the contamination of soils and water resources. Please refer to the Hydrology/Geohydrology and Soil, Land Use and Land Capability sections for impacts associated with hydrocarbon storage and handling.	Hydrocarbon storage and handling	0	0	0	0	0	N	N	Please refer to the Hydrology/Geohydrology and Soil, Land Use and Land Capability sections for management measures and action plans associated with hydrocarbon storage and handling.	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 5: HYDROCARBON STORAGE AND HANDLING																				
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Water quality decline as a result of spills and leaks. The intensity of this impact may vary. Large fuel spills can result in the total loss of all aquatic biota, while small leaks may result in gradual loss of sensitive species over time. In either case, biodiversity will decline.	N/A	8	2	3	4	52	-	M	All hazardous material should be stored on impervious surfaces that allow for the containment of spills and leakages (e.g. bunded areas). Should spills occur, these should be reported to the environmental coordinator. Larger spills will require the appointment of specialist clean-up teams to rehabilitate the affected area. No hazardous materials may be stockpiled in any wetland area on site. Maintain aquatic biomonitoring programme. An emergency preparedness plan should be compiled detailing required actions in case of spills or leaks. Any spill/leak incidents should be followed up by auditable actions.	6	2	2	3	30	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-12: Impacts and Management Measures for Operational Phase Activities: Change House

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 6: CHANGE HOUSE																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HYDROLOGY																				
It is estimated that approximately 200 litres of water per person per day will be used for the purposes of the change house.	Surface water pollution	10	3	2	5	75	-	H	The mine will ensure optimum functioning, maintenance and drainage for the change house.	6	2	2	3	30	-	M	A dynamic water and salt balance will be drawn up by the mine prior to commencing with operational activities	Prior to operational activities	Environmental control officer	Included in Operational Costs
Wash water from the change house could pollute local water systems.	Surface water pollution	4	4	2	4	40	-	M	Wash water will be passed through an appropriate system of filters/silt traps to remove inorganic materials, before flowing into the sewage system.	4	4	1	1	9	-	L	Inspect filters/silt traps to ensure optimal functioning of the system.	Daily	Environmental control officer	Included in Operational Costs
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to FAUNA AND FLORA																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to AIR QUALITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-13: Impacts and Management Measures for Operational Phase Activities: Workshops & Washbay

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 7: WORKSHOPS & WASH BAY																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Risk of groundwater contamination as a result of workshop and wash bay related activities.	Groundwater pollution	8	4	2	5	70	-	H	Workshops and wash bays must be constructed within the dirty water area of the mine. Clean and dirty water separation structures to be constructed around the workshop and wash bay areas.	4	4	2	3	30	-	M	Designs of the separation structures to be undertaken in terms of GN704.	Prior to operation	Environmental control officer/Project Manager	Included in Operational Costs
									A downstream lined pollution control dam must be constructed for the collection of dirty water run-off from this delineated area.								Designs of the pollution control dams to be undertaken in terms of GN704.	Prior to operation	Environmental control officer/Project Manager	Included in Operational Costs
									A silt trap must be installed at the inflow of the pollution control dam to collect all suspended solids and prevent the dam from losing its design capacity through siltation.								The silt trap must be regularly inspected and cleaned to ensure optimum functioning.	Weekly	Environmental control officer/Project Manager	Included in Operational Costs
									All heavy vehicles within the mining rights area will make use of drip-trays when parked.								Ensure drip trays are adequately utilised and in working order.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Issues related to HYDROLOGY																				
Risk of surface water contamination as a result of workshop and wash bay related activities.	Surface water pollution	8	4	2	5	70	-	H	Workshops and wash bays must be constructed within the dirty water area of the mine. Clean and dirty water separation structures to be constructed around the workshop and wash bay areas.	4	4	2	3	30	-	M	Designs of the separation structures to be undertaken in terms of GN704.	Prior to operation	Environmental control officer/Project Manager	Included in Operational Costs
									A downstream lined pollution control dam must be constructed for the collection of dirty water run-off from this delineated area.								Designs of the pollution control dams to be undertaken in terms of GN704.	Prior to operation	Environmental control officer/Project Manager	Included in Operational Costs
									A silt trap must be installed at the inflow of the pollution control dam to collect all suspended solids and prevent the dam from losing its design capacity through siltation.								The silt trap must be regularly inspected and cleaned to ensure optimum functioning.	Weekly	Environmental control officer/Project Manager	Included in Operational Costs
									All heavy vehicles within the mining rights area will make use of drip-trays when parked.								Ensure drip trays are adequately utilised and in working order.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Wash water containing heavy silt loads could settle in pollution control dams and reduce storage capacity.	Surface water pollution	4	4	1	4	36	-	M	Suitable silt traps must be provided to trap and remove silt from wash water.	4	4	1	1	9	-	L	Inspect silt traps to ensure optimal functioning.	Daily	Environmental control officer	Included in Operational Costs
Runoff from workshops and washbays could be contaminated with hydrocarbons.	Surface water pollution	4	4	3	3	33	-	M	Suitable oil traps must be provided to trap and store hydrocarbons for safe disposal off-site.	4	4	1	1	9	-	L	Inspect oil traps to ensure optimal functioning.	Daily	Environmental control officer	Included in Operational Costs
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Risk of soil contamination as a result of workshop and wash bay related activities.	Soil contamination	8	4	2	5	70	-	H	Workshops and wash bays must be constructed within the dirty water area of the mine. Clean and dirty water separation structures to be constructed around the workshop and wash bay areas.	4	4	2	3	30	-	M	Designs of the separation structures to be undertaken in terms of GN704.	Prior to operation	Environmental control officer/Project Manager	Included in Operational Costs
									A downstream lined pollution control dam must be constructed for the collection of dirty water run-off from this delineated area.								Designs of the pollution control dams to be undertaken in terms of GN704.	Prior to operation	Environmental control officer/Project Manager	Included in Operational Costs

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 7: WORKSHOPS & WASH BAY																				
									A silt trap must be installed at the inflow of the pollution control dam to collect all suspended solids and prevent the dam from losing its design capacity through siltation.								The silt trap must be regularly inspected and cleaned to ensure optimum functioning.	Weekly	Environmental control officer/Project Manager	Included in Operational Costs
									All heavy vehicles within the mining rights area will make use of drip-trays when parked.								Ensure drip trays are adequately utilised and in working order.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Issues related to FAUNA AND FLORA																				
Direct impacts on sensitive/pristine habitat types.	Operational activities	6	4	2	3	36	-	M	Prevent spillages and effluent spillage.	4	4	2	2	20	-	L	Develop an action plan for the prevention of effluent spillage; develop a procedure in the event of a spillage, including reporting, cleaning, and rehabilitation; implement constant evaluation of systems and operational vehicles; and implement awareness training.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Impacts on surrounding habitat/species, including ecosystem functioning.	Operational activities	6	4	2	3	36	-	M	Prevent spillages and effluent spillage.	4	4	2	2	20	-	L	Develop an action plan for the prevention of effluent spillage; develop a procedure in the event of a spillage, including reporting, cleaning, and rehabilitation; implement constant evaluation of systems and operational vehicles; and implement awareness training.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Issues related to AIR QUALITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-14: Impacts and Management Measures for Operational Phase Activities: Treatment of Sewage Effluent

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 8: TREATMENT OF SEWAGE EFFLUENT																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Contamination of underlying aquifer	Sewage effluent treatment/transport	6	4	2	4	48	-	M	Lining of sewage treatment facility, maintenance of infrastructure, treatment of effluent, closed system	4	4	1	2	18	-	L	Lining of sewage treatment facility, maintenance of infrastructure, treatment of effluent, closed system, Groundwater monitoring	Quartery monitoring, including bacteria	Mine Environmental Manager	Included in Operational Costs
Seepage from the on site sewage management facility can occur if not managed correctly .	Sewage treatment facility	10	3	2	3	45	-	M	Maintenance features should be designed properly.	6	2	1	3	27	-	L	Maintain and implement relevant measures and upgrade where and when necessary.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
									Follow the Emergency Response procedure in the event of a major spillage incident.								Follow the Emergency Response Procedure in the event of a major spillage incident.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
									Monitoring programme should be maintained for organic compounds.								Monitor the organic compounds from the facility as part of the surface and groundwater monitoring programme on a quarterly basis, or as requested from the DWA.	Quarterly	Environmental control officer/Project Manager	Included in Operational Costs
									The containment facility around the treatment plant should be adequate for any accidental spillages.								Conduct weekly assessments on the containment facility of the sewage treatment facility.	Weekly	Environmental control officer/Project Manager	Included in Operational Costs
									Groundwater quality monitoring networks must be set up prior to the construction phase so that any groundwater quality and quantity issues can be addressed accordingly.								Groundwater quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer/Project Manager	R 91 000.00
																	Quarterly groundwater monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality or quantity issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Issues related to HYDROLOGY																				
Seepage from the on site sewage management facility can occur if not managed correctly .	Sewage treatment facility	10	3	2	3	45	-	M	Maintenance features should be designed properly.	6	2	1	3	27	-	L	Maintain and implement relevant measures and upgrade where and when necessary.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
									Follow the Emergency Response procedure in the event of a major spillage incident.								Follow the Emergency Response Procedure in the event of a major spillage incident.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
									Monitoring programme should be maintained for organic compounds.								Monitor the organic compounds from the facility as part of the surface and groundwater monitoring programme on a quarterly basis, or as requested from the DWA.	Quarterly	Environmental control officer/Project Manager	Included in Operational Costs
									The containment facility around the treatment plant should be adequate for any accidental spillages.								Conduct weekly assessments on the containment facility of the sewage treatment facility.	Weekly	Environmental control officer/Project Manager	Included in Operational Costs
									Surface water quality monitoring networks must be set up prior to the construction phase so that any surface								Surface water quality sampling will be undertaken on a monthly basis and analysed according to the prescribed	Monthly	Environmental Control Officer/Project Manager	R 91 000.00

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 8: TREATMENT OF SEWAGE EFFLUENT																				
									water quality issues can be addressed accordingly.								monitoring programme contained in the EIA/EMP.			
																	Quarterly surface water monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental control officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental control officer/Water Quality Specialist	To be determined - depending on severity of incident
Sewage from the mining site could pollute local water systems.	Sewage treatment facility	4	4	2	4	40	-	M	An appropriate sewage treatment plant will treat water to acceptable standards before discharging.	4	4	1	1	9	-	L	Maintain and implement relevant measures and upgrade where and when necessary.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Chemical soil pollution	Spillage and seepage of wastewater	2	5	8	5	75	-	H	Proper chemical waste management	1	3	4	4	32	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer/Project Manager	Included in Operational Costs
Stream flow reduction will be caused by separating the clean and dirty water through berms and trenches.	Sewage treatment facility	8	2	2	4	48	-	M	Discharge points for clean storm water and treated effluent should include erosion protection measures as well as energy dissipaters and should release flows in a diffuse manner to encourage dispersion.	4	2	1	3	21	-	L	Inspect sewage plant for leaks .	Daily	Environmental control officer	Included in Operational Costs
Issues related to FAUNA AND FLORA																				
Direct impacts on sensitive/pristine habitat types.	Sewage treatment facility	6	4	2	3	36	-	M	Prevent any open/standing water; prevent effluent spillage.	6	4	2	1	12	-	L	Develop and implement amonitoring programme; prevent any effluent spillage/leaking; discourage animals from utlising unnatrual sources of water.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Direct impacts on common fauna species of the study area.	Sewage treatment facility	6	4	2	4	48	-	M	Prevent any open/standing water; prevent effluent spillage.	6	4	2	2	24	-	L	Develop and implement amonitoring programme; prevent any effluent spillage/leaking; discourage animals from utlising unnatrual sources of water.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Faunal interaction with structures, servitudes and/or personnel.	Sewage treatment facility	6	4	2	4	48	-	M	Prevent any open/standing water; prevent effluent spillage.	6	4	2	2	24	-	L	Develop and implement amonitoring programme; prevent any effluent spillage/leaking; discourage animals from utlising unnatrual sources of water.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Impacts on surrounding habitat/species, including ecosystem functioning.	Sewage treatment facility	6	4	3	4	52	-	M	Prevent any open/standing water; prevent effluent spillage.	6	4	3	2	26	-	L	Develop and implement amonitoring programme; prevent any effluent spillage/leaking; discourage animals from utlising unnatrual sources of water.	Ongoing	Environmental control officer/Health & Safety officer/ Ecologist/ Proponent	Included in Operational Costs
Issues related to AIR QUALITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 8: TREATMENT OF SEWAGE EFFLUENT																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-15: Impacts and Management Measures for Operational Phase Activities: Conveyor Belt

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 9: CONVEYOR BELT																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to FAUNA AND FLORA																				
Loss/disruption of mammal migration routes.	Conveyor belt operation	4	4	2	2	20	-	L	Ensure constant maintenance; prevent use of servitudes as roads/throughfares by personnel/vehicles.	4	4	2	1	10	-	L	Develop and implement a biodiversity monitoring and management programme.	Ongoing/Bi-annual	Environmental control officer/Ecologist	Included in Operational Costs.
Direct impacts on sensitive/pristine habitat types.	Conveyor belt operation	4	4	2	2	20	-	L	Limit impacts to approved servitudes only.	4	4	2	1	10	-	L	Develop and implement a biodiversity monitoring and management programme.	Ongoing/Bi-annual	Environmental control officer/Ecologist	Included in Operational Costs.
Direct impacts on common fauna species of the study area.	Conveyor belt operation	2	4	2	2	16	-	L	Ensure constant maintenance; prevent use of servitudes as roads/throughfares by personnel/vehicles.	2	4	2	1	8	-	L	Develop and implement a biodiversity monitoring and management programme.	Ongoing/Bi-annual	Environmental control officer/Ecologist	Included in Operational Costs.
Faunal interaction with structures, servitudes and/or personnel.	Conveyor belt operation	2	4	2	2	16	-	L	Ensure constant maintenance; prevent use of servitudes as roads/throughfares by personnel/vehicles.	2	4	2	1	8	-	L	Develop and implement a biodiversity monitoring and management programme.	Ongoing/Bi-annual	Environmental control officer/Ecologist	Included in Operational Costs.
Impacts on surrounding habitat species, including ecosystem functioning.	Conveyor belt operation	2	4	2	2	16	-	L	Limit impacts to approved servitudes only.	2	4	2	1	8	-	L	Develop and implement a biodiversity monitoring and management programme.	Ongoing/Bi-annual	Environmental control officer/Ecologist	Included in Operational Costs.
Issues related to AIR QUALITY																				
Fugitive dust emissions	Ore handling	4	4	1	4	36	-	M	Design conveyor belts with covers.	2	4	1	3	21	-	L	Include dust mitigation measures during the design phase of the conveyor belts. Establish dust monitoring system alon conveyor belt routes.	Once off	Design Engineer	Included in Operational Costs.
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Dust from conveyors, trucks, roads and bridge crossings may be flushed aor blown into the surface waters. This would lead to increased turbidity (decreased water	Deterioration in water quality	8	4	3	4	60	-	M	Conveyor routes should avoid wetland areas. No dirty storm water may be discharged into any wetland or water resource on site unless treated to the	6	4	3	3	39	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 9: CONVEYOR BELT																				
quality) and sedimentation. In addition, dust may cause a salinisation and acidification of surface waterbodies, either directly or via subsurface seepage. This may lead to a deterioration in biotic integrity. and loss of sensitive biota.									required standards. Overloading of trucks must be prohibited and stirctly enforced to reduce spillages. Dust control measures must be employed. Spills should be prevented and an emergency preparedness plan put in place to cater for major spills.											
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-16: Impacts and Management Measures for Operational Phase Activities: Tailings Storage Facility (TSF)

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 10: TAILINGS STORAGE FACILITY																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to FAUNA AND FLORA																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to AIR QUALITY																				
Fugitive dust emissions	Ore handling	4	4	1	4	36	-	M	Implement speed control and wetting of road surfaces.	2	4	1	3	21	-	L	Include dust mitigation measures during the design phase of the conveyor belts. Implement vehicle handling procedures and monitor/manage implementation thereof continuously.	Once off	Environmental Control Office/Health and Safety Officer	Included in Operational Costs.
Windblown dust generation	TSF operation	6	5	2	4	52	-	M	Implement appropriate edge design and revegetate where possible.	4	4	2	4	40	-	M	Erect vegetative wind breaks. Explore the revegetation and dump cladding options. Extend dust fallout monitoring system into neighbouring communities/townships.	Ongoing Ongoing Ongoing	Environmental Control Office Environmental Control Office Environmental Control Office	Included in Operational Costs. Included in Operational Costs. Included in Operational Costs.
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Seepage from the tailings facilities and waste rock dumps could potentially lead to the formation of acid rock drainage and contamination of groundwater. Contaminated groundwater may find its way into wetlands and streams.	Water Quality Impacts	6	4	2	5	60	-	M	Clean and dirty water must at all times be separated. Clean water should be diverted around dirty areas and returned to the natural water resources. Dirty water systems should meet the requirements of GN704 as a minimum. No dirty water may be discharged on site. Leaks or spills associated with the tailings facilities should be prevented as far as possible and immediate remedial action taken	4	4	2	5	50	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 10: TAILINGS STORAGE FACILITY																				
									in the event of an incident. The tailings facility should be suitably lined and designed according to stringent safety standards. An emergency preparedness plan should be compiled in case of a major incident.											
Water quality impacts, resulting from spills, leaks (e.g. from dirty water pipelines), dust, dirty stormwater or seepage (from stockpiles and tailings facilities), will result in the loss of taxa that may be sensitive to water quality.	Loss of biodivertisty	6	4	3	5	65	-	H	Implementation of all mitigation measures listed for erosion control and water quality management will reduce the severity of impacts. An emergency preparedness plan should be compiled and implemented in the event of major spills (e.g. fuel, mine water or tailings). Dust suppression measures should be used. A biomonitoring plan should be compiled and implemented and should include assessments of water quality, habitats and aquatic macroinvertebrates. Sampling sites further down in the Doring River catchment should be included to assess impacts on downstream ecosystems. All mitigation measures relating to water quality should be audited with prompt follow-up action taken in the event of non-compliances.	6	4	3	4	52	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-17: Impacts and Management Measures for Operational Phase Activities: Operation of Plant

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 11: OPERATION OF PLANT																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to FAUNA AND FLORA																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to AIR QUALITY																				
Fugitive dust emissions	Ore handling	4	4	1	4	36	-	M	Implement speed control and wetting of road surfaces.	2	4	1	3	21	-	L	Include dust mitigation measures during the design phase of the conveyor belts. Implement vehicle handling procedures and monitor/manage implementation thereof continuously.	Once off	Environmental Control Office/Health and Safety Officer	Included in Operational Costs.
Fugitive dust emissions	Crushing	6	4	1	4	44	-	M	Ensure crushing operations are covered and sprays for dust suppression are utilised.	2	4	1	3	21	-	L	Include dust mitigation measures during the design phase of the conveyor belts. Implement vehicle handling procedures and monitor/manage implementation thereof continuously.	Once off	Environmental Control Office/Health and Safety Officer	Included in Operational Costs.
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Discharge of stormwater usually occurs at low points in the landscape, often into wetland areas. Increased flow volumes and velocities result in erosion and channel incision within the wetlands, as well as deteriorating water quality.	Erosion at Stormwater Outlets	6	4	2	5	60	-	M	Generation of stormwater should be minimised (see Section 7.4.3 above). A detailed stormwater management needs to be compiled and implemented. Sediment and litter traps should be incorporated at inlets to the stormwater system. Only clean water should be discharged and discharge points should be located outside wetland areas. Points of discharge should be protected against erosion and regularly monitored for erosion damage. Any damage should be	4	2	2	5	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 11: OPERATION OF PLANT																				
									immediately repaired and corrective measures put in place to prevent further erosion damage.											
The storage of fuel on site, the wash bay and workshops provide sources of hydrocarbon pollution, while the waste rock dumps could potentially lead to the formation of acid rock drainage. The waste storage and handling facilities also pose a source of a number of pollutants and toxicants that could potentially enter downslope wetlands.	Water Quality Impacts	6	4	2	5	60	-	M	Clean and dirty water must at all times be separated. Clean water should be diverted around dirty areas and returned to the natural water resources. Discharge points of clean water should be protected against erosion and should aim to mimic the hydrology of the receiving water resource. No concentrated discharge should take place. Discharge points should also be regularly monitored and damage repaired. Dirty water systems should meet the requirements of GN704 as a minimum. No dirty water may be discharged on site.	4	4	2	5	50	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Water quality impacts, resulting from spills, leaks (e.g. from dirty water pipelines), dust, dirty stormwater or seepage, will result in the loss of taxa that may be sensitive to water quality. In addition, altered hydrology, in terms of timing, duration and quantity of water will affect habitat availability. Reduced flows or shorter periods of inundation may reduce both the availability and suitability of habitats and will have an impact on aquatic fauna.	Loss of biodiversity	6	4	3	5	65	-	H	Implementation of all mitigation measures listed for erosion control and water quality management will reduce the severity of impacts. An emergency preparedness plan should be compiled and implemented in the event of major spills (e.g. fuel, mine water or sewage spill). Dust suppression measures should be used. A biomonitoring plan should be compiled and implemented and should include assessments of water quality, habitats and aquatic macroinvertebrates. Sampling sites further down in the Doring River catchment should be included to assess impacts on downstream ecosystems. All mitigation measures relating to water quality should be audited with prompt follow-up action taken in the event of non-compliances.	6	4	3	4	52	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-18: Impacts and Management Measures for Operational Phase Activities: Linear Infrastructure

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 12: LINEAR INFRASTRUCTURE																				
Issues related to GEOLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Soil compaction	Construction of infrastructure	2	4	6	4	48	-	M	Keep infrastructure localized to reduce footprint	2	4	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental Control Officer	Included in Operational Costs.
Soil erosion	Vegetation removal during construction and operations	1	5	8	4	56	-	M	Keep as much original landcover/topsoil as possible	1	3	4	4	32	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental Control Officer	Included in Operational Costs.
Issues related to FAUNA AND FLORA																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to AIR QUALITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Leaking pipelines carrying dirty water will result in contamination of surface water or groundwater. Leaks from clean or dirty water pipelines may also create localised erosion nick-points.	Leaking water pipelines	8	3	2	3	39	-	M	Pipelines should be regularly inspected for leaks and for erosion nick-points. Any incident involving leaking pipelines should be immediately addressed in an auditable fashion. An emergency preparedness plan should be compiled and implemented in case of major leaks. Erosion nick-points should be stabilised, where possible.	6	2	2	3	30	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.
Loss of sensitive biota and habitats as a result of spills or leaks from dirty water pipelines. The severity of this impact will depend on the locality.	Loss of biodiversity	6	5	3	2	28	-	L	Pipelines should be regularly inspected for leaks and for erosion nick-points. Any incident involving leaking pipelines should be immediately addressed in an auditable fashion. An emergency preparedness plan should be compiled and implemented in case of major	6	5	2	2	26	-	L	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental control officer	Included in Operational Costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE ACTIVITY 12: LINEAR INFRASTRUCTURE																				
									leaks. Erosion nick-points should be stabilised, where possible.											
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

6.6 Operational Phase for SOFS DBM Project Extension

During the operational phase the possible impact associated with the underground mining operations will be discussed in this section. The Operational Activities only include underground mining at this stage of the planning.

6.6.1 Hydrogeology

The single largest risk in terms of groundwater impacts during the operational mining phase is that of aquifer dewatering of the deeper lying Witwatersrand Complex. Despite the dewatering volumes, no groundwater users would be affected, as the deeper lying Witwatersrand aquifer is isolated from the upper Karoo aquifer.

6.6.2 Ecology

There will be no removal of fauna and flora species on site. The mining activities takes place below the burrow and habitation depth of most species and would not affect the possible mammal species on the surface. Existing underground mining activities have created a baseline disruption for underground activities which most species are adapted to and do establish themselves on top of underground mining operations.

6.6.3 Climate Change

In terms of the possible impacts the operations will have on climate change, the fact that there is currently no infrastructure, surface disturbances, or activities planned, the Project would have very low impacts on climate change.

6.6.4 Heritage

The chances of heritage features occurring on the surface of the footprint are very high. These features will range from low significance (e.g. the ruins) to high significance (e.g. graves).

The underground mining would not affect the surface features.

A phase 1 HIA would be required if the surface footprint were to be affected in any manner.

6.6.5 Agricultural Potential

The SOFS DBM Project Extension only consists of underground mining activities. The mining operation will take more than 700m below the surface. There will be no surface interruptions for agricultural activities and the surface of the properties will continue with the current land uses of primarily agriculture and residential. As found in the hydrogeological assessment, there will be no effect on the surface water resources as well as the borehole users. Therefore, the water sources for agricultural activities will also not be affected.

6.6.6 Wetlands

The identified wetlands would not be affected by the underground mining activities. Wetlands typically have a shallower hydrological feed and the depth at which mining takes place within this area would not affect the wetland feeding system or the wetland ecology and functioning.

Table 6-20 provides the Impact Assessment Table for the possible impact during the operational phase of the project as well as the proposed mitigation measures to manage the possible impacts.

Table 6-19: Construction Impacts for the SOFS DBM Project Extension

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE OF SOFS DBM PROJECT EXTENSION																				
Issues related to GEOLOGY																				
Removal of gold resources will permanently alter the geology of the area.	Mining	10	5	2	5	85	-	H	No mitigation measures are possible, as mining permanently destroys the geological strata. The mining operations will remain within the limits of the designated mining rights area.	10	5	2	5	85	-	H	The mine will make optimal use of the gold resources which forms part of the mining rights area.	N/A	N/A	N/A
The potential sterilisation of other resources due to the establishment of infrastructure on potential mineral resources.	Mining	8	5	2	4	60	-	M	The mine must undertake detailed geological investigations to determine the extent of the resources and ensure that no mining infrastructure is located on areas of potential mineral resources. The mine must ensure to optimally utilise all available gold resources. Should additional gold resources be identified outside the boundaries as stipulated within this report, the necessary applications must be made to the relevant authorities, who will include, but are not limited to the DMR (for mining), DEA (for listed activities); DWA (for water related issues), NDA (for potential impacts on land use and capability), SAHRA (for potential impact on unidentified graves or culturally important sites).	8	5	2	3	45	-	M	Phased mine plans must be developed within legal mining rights area. All mining activities will be undertaken in line with the Mining Works Programme and the EMP.	Ongoing	Project Manager	Included in Operational Costs
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Baseline information is required for water quality monitoring purposes.	Underground workings Dewatering	2	2	2	2	12	-	L	Monitoring water quality in the monitoring network. Meter abstracted water user for quantity.	2	2	1	2	10	-	L	Regular water level readings must be taken (from probes and hand measurements) to monitor changes in the groundwater table. If possible, these boreholes should be placed throughout the mine to assess the regional groundwater table.	Quarterly	Environmental Coordinator	To form part of the existing monitoring program
																	Monitoring boreholes should be installed on the boundaries of the proposed new mining right extension area as well as around the perimeter of the entire proposed SOFS mining area. This is to ensure that mining activities are not impacting groundwater levels or groundwater quality in the area, which will negatively affect groundwater users who rely on this water source for domestic use and farming.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	It is recommended that all monitoring boreholes be monitored on a quarterly basis.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	Although there are no highly elevated constituents in the groundwater, with the exception of nitrate, it is recommended that the	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program

																	parameters used for analysis in this report is used for monitoring purposes.			
																	It is recommended that the data is stored in a dedicated database and that quarterly and annual reports are generated for mine management.	Quarterly	Environmental Coordinator	To be determined - depending on severity of incident
Issues related to HYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to FAUNA AND FLORA																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to AIR QUALITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No significant additional social impacts would occur for SOFS DBM Project Extension .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
Graves are located on the surface. Would not affect the surface graves.	Graves/ grave yards	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to CLIMATE CHANGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A

6.7 Closure and Decommissioning Phase

Closure for mining activities is highly important as far as the environmental factors are concerned. If mitigation measures are not followed properly it could have devastating impacts. As closure without mitigation factors could have a permanent effect on the area and its surrounds.

The mine will be required to apply for a Closure Certificate according to Section 43 of the MPRDA. Section 43 (1) of the MPRDA stated that *"the holder of a … mining right …remains responsible for any environmental liability, pollution or ecological degradation, and the management thereof, until the Minister has issued a closure certificate to the holder concerned"*.

It is therefore assumed that all environmental impacts will be successfully addressed and managed at this phase. When the decision is taken to decommission the mine, the activities below will be implemented:

- Recovery of all saleable infrastructure;
- Demolition of structures;
- Ripping of all compacted areas, which will be followed with amelioration and vegetation;
- Ensure that all remaining dumps, piles and slopes are sufficiently shaped to blend in with the surrounding infrastructure;
- Amelioration and vegetation of all disturbed areas;
- Maintenance of all re-vegetated areas up until such areas initiate succession and create a sustainable cover;
- Monitoring of key environmental variables (i.e. soils, vegetation, groundwater and
- surface water) in order to demonstrate stability of rehabilitated areas;
- Weed management after closure, limited to areas disturbed by mining or included in the mining area.
- Monitoring will be undertaken for a specific period after closure or up until such time that all areas create a sustainable cover and ecosystem.

6.7.1 Removal of Infrastructure

Following cessation of mining and processing, it is planned that all infrastructures will be decommissioned and removed from site in a systematic and regulated manner. The following activities will be conducted during the decommissioning and closure phase of the project:

Buildings

- All infrastructure will be removed and rehabilitated, should no alternative use be found for the structures;
- Foundations will be removed to a depth of 1m below surface;
- An alternative use for the brick structures will first be sought i.e. they can either be sold/donated to the post-mining landowner on sale of the land. If an alternative use cannot be found, the buildings will be demolished; and
- All material recovered from the demolition of buildings and/or structures will either be transported to a permitted disposal site, sold as scrap or made available to the local community as building materials (provided they are in a satisfactory condition following demolition).

Linear Infrastructure

- Linear infrastructure constructed by the mine (i.e. roads, conveyors and power lines) will be removed if it proves to inhibit land use at decommissioning. Where possible infrastructure will remain for future mining operations as determined by Wits Gold or for social investment opportunities, this will be decided in conjunction with IDP of the area and the local authorities (i.e. municipality). The soils and land capability will be rehabilitated to near pre-mining conditions;
- All roads will be rehabilitated by ripping these structures to a depth of 500mm;
- All fences erected around the mine and linear infrastructure will be dismantled and either disposed of at a permitted disposal site or sold as scrap (provided these structures will no longer be required by the post-mining land owner). Fences erected to cordon-off dangerous excavations will remain in place and will be maintained as and when required; and
- Any overland conveyors, if not used as transportation system by another operation or as a community initiative, will be disassembled and the components removed from the site. The material can either be sold (as a unit) or the components sold as scrap.

Pollution Control Dams

- All PCDs will be maintained to ensure that no leakages occur;
- Overflow pipes will be kept clean;
- Sumps will be kept clean and all pumps will be maintained; and
- The pollution control dams will only be demolished should the area prove to be free draining with no pollution potential after rehabilitation.

6.7.2 Active Rehabilitation - Landscaping

Landscaping activities will involve the active rehabilitation of the area with the following activities taking place:

- Recovery of all saleable infrastructure;
- Demolition and removal of all buildings and structures;
- Ripping of all compacted areas, which will be followed with amelioration and vegetation;
- Ensure that all remaining piles and slopes are sufficiently shaped to blend in with the surrounding environment;
- Amelioration and vegetation of all disturbed areas;
- Maintenance of all re-vegetated areas up until such areas initiate succession and create a sustainable cover;
- Monitoring of key environmental variables (i.e. soils, vegetation, groundwater and surface water) in order to demonstrate stability of rehabilitated areas; and
- Weed management after closure, limited to areas disturbed by mining or included as infrastructure related to the mine.

The final plans for active rehabilitation of the shafts (vertical incline and ventilation) as well as the Brownfields TSF facility have not yet been finalised. The final placement and approach to rehabilitation will be determined during the Bankable Feasibility Study (BFS) for the proposed operation, due for completion in July 2013. It is anticipated that, as a minimum, the shaft area will require fencing around the shafts and capping to make them safe. With regard to the Brownfields TSF site it is anticipated that the slopes will have to be shaped and sloped and vegetation cover established to be self-sustaining. In addition a detailed stormwater management plan will have to be developed for the Brownfields TSF site post operation.

6.7.3 Residual Impacts Post Closure

Although it is assumed that all impacts will be managed and rehabilitated by the closure objectives, some residual impacts may however still be present.

6.7.4 Geohydrology

The groundwater levels in the underground mining area will probably recover during the decommissioning and post-closure phases when mine dewatering is stopped. The groundwater level recovery will depend on a) the extent of interaction and b) dewatering of neighbouring mines. No decant is foreseen due to the topographic position of the mine. The single largest risk in terms of post closure impacts is that of aquifer contamination caused by leachate from

the new TSF to be located on the Merriespruit TSF. Static leach tests that were undertaken on a comprehensive tailings sample indicated arsenic (As) concentration of 11 mg/l and sulphate concentration of 700 mg/l. A plume could potentially migrate a 1000 m in a north-westerly direction from the TSF a hundred years after closure.

Pyrite (FeS2) is present as minor mineral in the tailings. Pyrite will be the major contributor to the products of acid-mine drainage in the tailings. Carbonate minerals which are responsible for buffering, are absent in the tailings and therefore the tailings sample will have a definite potential to produce acid drainage over the long term.

- Various metals were also found in the tailings water in elevated concentrations which exceeded the SANS 241 drinking water standard. These elevated metals include Al, As, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb and Sb. These metals are likely to be associated with the tailings material and could therefore impact on both surface water and groundwater resources. The constituents SO4, EC and NH3 were also found in levels exceeding the SANS 241 drinking water standard. The total cyanide level exceeds the screening level SSV1 for Human Health and water resource protection and therefore poses a potential risk to the groundwater.

6.7.5 Hydrology

It is anticipated that most risks posed to local surface water resources could be effectively managed by an appropriate storm-water management plan.

- Deep seepage from tailings and slimes facilities into local watercourses is unlikely due to the location of discard facilities far from rivers and streams. It is possible that a TSF located towards the east of the planned discard area could allow seepage into deep and well-drained sandy soils that will eventually seep into local river systems. The design of TSFs should consider seepage risks and, if needed, make allowance for sealing or lining of the base of a TSF.
- Other seepage will be collected by means of return water drains and transferred to return water dams. In this case, where stormwater will be treated and discharged, water from return water dams should be considered first priority water supply to processing and treatment plants.
- A concern that needs to be considered is that dust created in TSFs could add to local atmospheric pollution. Dust from the tailings dams of other mines in the vicinity of the town of Virginia is widely claimed to pose health risks to local inhabitants. Dust suppression on the TSFs constructed for this mine is considered to be important.
- Dirty water runoff conveyance and storage systems at the mine will be controlled by structures and control measures prescribed in the Storm-water Management Plan.

6.7.6 Soils, Land Use and Land Capability

For the impact assessment, all the following phases of the project cycle were considered for potential impacts on soil and land capability. Below is a description of each of the activities per closure phase that may result in soil impacts:

- Removal of infrastructure from soil surfaces;
- Removal of topsoil from stockpiles and using it to re-establish vegetation in disturbed areas;
- Increased traffic on haul roads to transport waste materials off-site as well as with construction vehicles to do rehabilitation; and
- It is anticipated that the TSF will remain on site in perpetuity due its permanent nature.

6.7.7 Fauna & Flora

No impacts were identified that could lead to a beneficial impact on the ecological environment of the study area since the proposed development is largely destructive. The following impacts were identified that are relevant to the proposed development:

- Direct impacts:
    - Direct impacts on flora species of conservation importance;
    - Direct impacts on fauna species of conservation importance;
    - Loss, or disruption of mammal migration routes on a local scale;
    - Direct impacts on sensitive/ pristine habitat types of the study area; and
    - Direct impacts on common fauna species occurring on the study area.
- Indirect Impacts:
    - Faunal interactions with structures, servitudes and personnel; and
    - Impacts on surrounding habitat/ species, including ecosystem functioning.

6.7.8 Wetlands

The following impacts are expected to occur as a result of the proposed project activities:

Decommissioning and Closure Phase:

- Increased sediment movement into adjacent wetlands;

- Water quality deterioration due to handling, leaks and spills of a variety of polluting substances on site, as well as through removing and handling of waste and contaminated materials; and
- Decant of acidic mine water from the underground workings.

6.7.9 Air Quality

The closure activities will result in dust emissions, both from mining activities and fugitive emissions from the large areas of previously vegetated land that will now be exposed. Provided sufficient mitigation measures are instigated, it is unlikely that these emissions resulting from mining activity will result in the exceedence of South Africa's guidelines for particulate emissions.

The dump is an area of concern, although it is impossible to determine whether the emissions that result from Wits Gold DBM's activities will increase or decrease the fugitive dust emissions from the dump in question. It is recommended that care be taken in the rehabilitation design of the dump, and that the existing dust fall out monitoring network be redesigned to centre around the rehabilitation activities, with monitors in the sensitive reception areas of Virginia and Meloding.

6.7.10 Traffic

Implement and monitor the traffic volumes throughout the life of mine including closure and decommissioning.

6.7.11 Social

Wits Gold must continue to monitor the impact on the social environment as a result of closure and decommissioning in accordance with the social and labour plan and other Wits Gold HR plans.

6.7.12 Heritage

Care should also be taken when rehabilitation commences that if any more artifacts are uncovered, a qualified archaeologist be called in to investigate. In addition Wits Gold must continue to minimize any impacts on the currently identified sites and any future findings of significance.

6.7.13 Radiation

Impact on public safety as a result of exposure to radioactivity.

Table 6-20 - Table 6-22 details the identified impacts and management measures for the closure and decommissioning activities.

Table 6-20: Impacts and Management Measures for Closure Phase Activities: Removal of Infrastructure

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 1: REMOVAL OF INFRASTRUCTURE																				
Issues related to GEOLOGY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Contaminant soil could impact on groundwater quality	Plant, PCD's, workshops, other infrastructure	4	5	1	3	30	-	M	Removal of dirty soil to landfill	2	5	1	2	16	-	L	Removal of dirty soil to landfill	At closure	Mine Environmental Manager	Included in closure costs.
Issues related to HYDROLOGY																				
Erosion control over rehabilitated areas and the prevention of erosion gullies.	Erosion	8	2	2	4	48	-	M	The topography of all disturbed areas must be rehabilitated in such a manner that the surrounding natural area blends naturally with the rehabilitated areas well as to be free-draining. This will reduce soil erosion and improve natural re-vegetation.	6	2	2	3	30	-	M	Wits Gold will implement the approved rehabilitation plan, and monitor progress by maintaining a photographic record.	Monthly	Environmental Control Officer	Included in closure costs.
Contamination of surface water as a result of removal of infrastructure.	Pollution	8	2	2	4	48	-	M	The detailed waste management strategy implemented during the construction and operation phases must be continuously implemented throughout the closure and decommissioning phase.	6	2	1	2	18	-	L	Wits Gold will continue to implement the waste management strategy and monitor the effectiveness thereof to the activities taking place on site.	Ongoing	Environmental Control Officer	Included in closure costs.
Rubble and waste from site could pollute local water resources.	Pollution	4	5	2	3	33	-	M	Waste that is not removed from site should be spread, covered and suitably rehabilitated.	4	5	2	1	11	-	L	Wits Gold will continue to implement the waste management strategy and monitor the effectiveness thereof to the activities taking place on site.	Ongoing	Environmental Control Officer	Included in closure costs.
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
The utilisation of hydrocarbons and other chemicals during the removal of infrastructure may lead to the contamination of soils.	Hydrocarbon spillage	6	2	2	4	40	-	M	The detailed waste management strategy implemented during the construction and operation phases must be continuously implemented throughout the closure and decommissioning phase.	4	2	1	3	21	-	L	Wits Gold will continue to implement the waste management strategy and monitor the effectiveness thereof to the activities taking place on site.	Ongoing	Environmental Control Officer	Included in closure costs.
The decommissioning activities may lead to increased sediment movement off the site and soil compaction.	Infrastructure removal	6	2	2	4	40	-	M	Decommissioning activities should as far as possible take place in winter.	4	2	1	3	21	-	L	Draw up a plan clearly defining the area where the removal of infrastructure should take place. Implement the plan with sufficient measures in place not to compact new areas.	Ongoing	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
									Restrict vehicle movement to haul roads.								Implement a strict penalty fine system for rule breaking with regard to vehicular movement.	Ongoing	Health and Safety Officer/Project Manager/ Environmental Control Officer	N/A
									Clean and dirty water systems should be maintained until closure or when the area is free-draining.								Maintain clean and dirty water systems and undertake regular monitoring and maintenance thereof.	Ongoing	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
Issues related to FAUNA AND FLORA																				
Direct impacts on flora species of conservation importance.	Infrastructure removal	8	5	3	2	32	-	M	Limit activities to development footprint; prevent the spread of impacts; prohibit any activity within areas of nearby natural habitat.	8	5	3	1	16	-	L	Implement awareness training; develop suitable waste/infrastructure removal routes that makes use of existing roads; and prevent access to nearby areas of natural habitat.	Ongoing	Environmental control officer/Contractor/Site Manager/Proponent	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 1: REMOVAL OF INFRASTRUCTURE																				
Direct impacts on fauna species of conservation importance.	Infrastructure removal	8	5	3	2	32	-	M	Limit activities to development footprint; prevent the spread of impacts; prohibit any activity within areas of nearby natural habitat.	8	5	3	1	16	-	L	Implement awareness training; develop suitable waste/infrastructure removal routes that makes use of existing roads; and prevent access to nearby areas of natural habitat.	Ongoing	Environmental control officer/Contractor/Site Manager/Proponent	Included in closure costs.
Loss/disruption of mammal migration routes.	Infrastructure removal	4	4	2	2	20	-	L	Limit activities to development footprint; prevent the spread of impacts; prohibit any activity within areas of nearby natural habitat.	4	4	2	1	10	-	L	Implement awareness training; develop suitable waste/infrastructure removal routes that makes use of existing roads; and prevent access to nearby areas of natural habitat.	Ongoing	Environmental control officer/Contractor/Site Manager/Proponent	Included in closure costs.
Direct impacts on sensitive/pristine habitat types.	Infrastructure removal	4	4	2	2	20	-	L	Limit activities to development footprint; prevent the spread of impacts; prohibit any activity within areas of nearby natural habitat.	4	4	2	1	10	-	L	Implement awareness training; develop suitable waste/infrastructure removal routes that makes use of existing roads; and prevent access to nearby areas of natural habitat.	Ongoing	Environmental control officer/Contractor/Site Manager/Proponent	Included in closure costs.
Direct impacts on common fauna species of the study area.	Infrastructure removal	4	4	2	3	30	-	M	Limit activities to development footprint; prevent the spread of impacts; prohibit any activity within areas of nearby natural habitat.	4	4	2	2	20	-	L	Implement awareness training; develop suitable waste/infrastructure removal routes that makes use of existing roads; and prevent access to nearby areas of natural habitat.	Ongoing	Environmental control officer/Contractor/Site Manager/Proponent	Included in closure costs.
Faunal interaction with structures, servitudes and/or personnel.	Infrastructure removal	4	4	2	3	30	-	M	Limit activities to development footprint; prevent the spread of impacts; prohibit any activity within areas of nearby natural habitat.	4	4	2	2	20	-	L	Implement awareness training; develop suitable waste/infrastructure removal routes that makes use of existing roads; and prevent access to nearby areas of natural habitat.	Ongoing	Environmental control officer/Contractor/Site Manager/Proponent	Included in closure costs.
Impacts on surrounding habitat/species, including ecosystem functioning.	Infrastructure removal	4	4	2	2	20	-	L	Limit activities to development footprint; prevent the spread of impacts; prohibit any activity within areas of nearby natural habitat.	4	4	2	1	10	-	L	Implement awareness training; develop suitable waste/infrastructure removal routes that makes use of existing roads; and prevent access to nearby areas of natural habitat.	Ongoing	Environmental control officer/Contractor/Site Manager/Proponent	Included in closure costs.
Increase in alien vegetation establishment on site.	Infrastructure removal	8	3	2	4	52	-	M	The detailed alien vegetation management plan implemented during the construction phase should be maintained for minimum of three years following decommissioning of the mine.	4	2	1	3	21	-	L	The alien vegetation management plan must be implemented and the applicability thereof assessed through bi-annual audits by a suitably qualified flora specialist.	Bi-annually	Environmental Control Officer	R 150 000.00
Issues related to AIR QUALITY																				
All activities associated with the removal of infrastructure and rehabilitation has the potential to release dust.	Rehabilitation activities	6	3	2	4	44	-	M	The dust monitoring network and dust suppression programme established during the construction phase of the project will be maintained throughout the closure phase of the mine. With respect to haul road dust levels, it is recommended to limit vehicle speeds, especially during high risk periods of high winds, high temperature and low humidity.	6	2	2	3	30	-	M	Dust sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer	R 92 000.00
																	Monthly monitoring reports will be generated by the mine or through a suitably qualified air quality specialist.	Monthly	Environmental Control Officer/Air Quality Specialist	R 42 000.00
																	In the event that air quality or dust issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Control Officer/Air Quality Specialist	To be determined - depending on severity of incident
																	Ensure optimal implementation and maintenance of the dust suppression programme.	Ongoing	Environmental Control Officer	Included in closure costs.
																	The road surface will to be watered on a daily basis.	Daily	Environmental Control Officer	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 1: REMOVAL OF INFRASTRUCTURE																				
																	The road surface will to be maintained on a weekly basis.	Weekly	Environmental Control Officer	Included in closure costs.
Fugitive dust emissions as a result of dust entrainment.	Rehabilitation activities	6	5	2	4	52	-	M	Revegetation of dumps on closure.	2	5	2	4	36	-	M	Allocation of resources to ensure revegetation and cladding of dump at closure.	On closure/annually	Environmental Control Officer	Included in closure costs.
Issues related to NOISE																				
All activities associated with the removal of infrastructure and rehabilitation has the potential to generate noise.	Rehabilitation activities	8	2	2	4	48	-	M	The removal of all infrastructure is to take place during daytime periods only.	6	2	2	3	30	-	M	Where noise becomes a nuisance, management measures will be investigated and implemented to address these.	Ongoing	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
																	Machinery with low noise levels and maintained in a good order to be used and to comply with the IFC's Health and Safety Regulations.	Ongoing	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
Issues related to TRAFFIC																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
Fugitive dust emissions as a result of infrastructure removal and associated exposed/bare areas may have an impact in terms of air quality and visual characteristics.	Infrastructure removal	8	2	2	4	48	-	M	Effective dust suppression measures, such as regular road wetting and/or the use of dust suppression chemicals, must be implemented.	6	2	2	3	30	+	M	Establish and implement a dust suppression plan in consultation with the environmental control officer and an air quality specialist as part of the contractor's responsibility.	Ongoing	Environmental Control Officer	Included in closure costs.
The rehabilitation (ripping, topsoil replacement and landscaping) will remove the visual incongruity.	Infrastructure removal	6	5	2	4	52	+	M	An overall visual improvement will be noticed once all mining related infrastructure has been demolished and the area has been landscaped and re-vegetated.	8	5	2	4	60	+	M	Demarcate the decommissioning area and limit the decommissioning activities as far as possible.	Prior to Decommissioning Phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
																	Final shaping will be implemented such that the final profile of the rehabilitated areas are formed to emulate natural contours of the area.	During Closure Phase	Environmental Control Officer/Project Manager	Included in closure costs.
																	Foundations will be removed to a depth of 1 m below the surface and the area rehabilitated.	During Closure Phase	Environmental Control Officer/Project Manager	Included in closure costs.
																	All material recovered from the demolition of buildings and/or structures will either be transported to a permitted disposal site, or made available to the local community as building materials (provided they are in a satisfactory condition following demolition).	During Closure Phase	Environmental Control Officer/Project Manager	Included in closure costs.
																	Linear infrastructure constructed by the mine (i.e. roads, conveyors and power lines) will be removed if it proves to inhibit land use at decommissioning.	During Closure Phase	Environmental Control Officer/Project Manager	Included in closure costs.
																	All fences erected around the mine will be dismantled and disposed of at a permitted disposal site.	During Closure Phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
Issues related to SOCIAL																				
Disruption and nuisance factors associated with the actual decommissioning such as noise, visual and traffic related impacts.	Nuisance	8	3	2	4	52	-	M	Local residents, with the focus on the surrounding landowners, should receive accurate information with regards to the project status, timeframes for decommissioning and other relevant information about	6	2	2	3	30	-	M	The community forum established during the construction phase and implemented throughout the operational phase of the DBM Mine should continue, through which issues can be addressed, and a	Ongoing	Environmental Control Officer	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 1: REMOVAL OF INFRASTRUCTURE																				
									issues that could influence their daily living and movement patterns.								representative from DBM should become involved.			
Issues related to HERITAGE																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Removal of surface infrastructure following mine closure will largely result in similar impacts to the initial establishment of infrastructure, as soils are disturbed and exposed to erosion.	Increased sediment movement	6	5	1	3	36	-	L	Earthworks and vegetation clearing activities should also be phased to minimize the extent of disturbed areas at any one time. Earthworks and vegetation clearing activities on site should ideally be undertaken during the dry season to minimize sediment transport during surface runoff following rainfall events.	4	5	1	1	10	-	L	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A
																	Markers and pegs will be erected and maintained along the boundaries of the working areas, access roads, haul roads and paths before commencing any work. If proved insufficient for control, these shall be replaced by fencing.	During closure and decommissioning phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in closure costs.
																	The contractor will ensure that all activities, material and equipment storage and personnel movement take place within the designated area.	During closure and decommissioning phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in closure costs.
																	Contractors will complete induction on the EMP, Environmental Awareness Plan and Emergency Response Plan prior to construction activities being undertaken. All workers will be made aware of the penalty systems for non compliance.	During closure and decommissioning phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in closure costs.
									Temporary toe berms should be installed on the down slope side of large bare soils areas and any soil stockpiles to trap sediments eroded odd these areas.								The site should be monitored for erosion and sediment movement during and after rainfall events and suitable interventions put in place to repair any erosion damage and to prevent further sediment movement off the site.	During closure and decommissioning phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in closure costs.
Clearing of vegetation and soil disturbance could lead to mobilisation of sediments and dust which may be blown or washed into receiving water bodies (wetlands and pans) within the vicinity. This would lead to increased turbidity (decreased water quality) which may have a negative impact on aquatic fauna. When the suspended solids (soil particles) settle out on the substrates in the wetlands, it leads to further deterioration in habitat quality. Sediments are colonised by Typha reeds or alien weeds, causing a decline in habitats during the wet season. This may result in a decline in overall aquatic biodiversity	Decline in habitats and biota	6	4	2	4	48	-	M	A biomonitoring plan should be compiled and implemented and should include assessments of water quality, habitats and aquatic macroinvertebrates. Sampling sites further down in the During River catchment should be included to assess impacts on downstream ecosystems.	6	4	1	2	22	-	L	Develop a biomonitoring plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	Included in closure costs.
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-21: Impacts and Management Measures for Closure Phase Activities: Active Rehabilitation

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 2: ACTIVE REHABILITATION																				
Issues related to GEOLOGY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Contaminant soil could impact on groundwater quality	Plant, PCD's, workshops, other infrastructure	4	5	1	3	30	-	M	Removal of dirty soil to landfill	2	5	1	2	16	-	L	Removal of dirty soil to landfill	At closure	Mine Environmental Manager	Included in closure costs.
Issues related to HYDROLOGY																				
Runoff from rehabilitated areas will impacts on watercourses especially during intensive rainstorms especially if the area are not free draining.	Active Rehabilitation	6	2	2	3	30	-	M	Berms, should they be necessary, must remain upstream and downstream of the dumps and stockpiles to ensure that clean water is kept separate from dirty water until the area is free draining and re-vegetation has occurred.	4	2	2	2	16	-	L	Continuous rehabilitation of the decommissioning area will be conducted in line with the Best Practice Guidelines released by the DWA. DBM will appoint a specialist to this effect.	Ongoing	Environmental Control Officer	Included in closure costs.
Runoff and drainage from stockpiles and the TSF may continue to yield polluted water.	Active Rehabilitation	6	5	3	4	56	-	M	Stockpiles should be spread and surfaces rehabilitated,	6	5	1	2	24	-	L	The surface of TSF should be rehabilitated and drains/return water dams maintained until rehabilitation is complete and vegetation self-sustaining.	Ongoing	Environmental Control Officer	Included in closure costs.
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Soil erosion	Wind and water erosion in unvegetated areas	2	4	6	4	48	-	M	Re-vegetate as soon as possible	1	5	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	At closure	Environmental Control Officer	Included in closure costs.
Ripping and topsoil replacement will restore the soil physical characteristics prior to re-vegetation.	Active Rehabilitation	6	2	1	3	27	+	L	Compacted soils will be ripped and topsoil will be replaced. After the topsoil has been replaced the area should be ameliorated and seeded, should self-succession of vegetation not take place. Only species indigenous to the area will be included.	8	2	1	4	44	+	M	Continuous rehabilitation of the decommissioning area will be conducted in line with the Best Practice Guidelines released by the DWA. DBM will appoint a specialist to this effect.	Ongoing	Environmental Control Officer	Included in closure costs.
Issues related to FAUNA AND FLORA																				
Direct impacts on sensitive/pristine habitat types.	Active Rehabilitation	4	4	2	2	20	-	L	Ensure proper soil preparation, seed mixture development and establishment of sufficient vegetation cover; prevent infestation of nearby areas and rehabilitation areas by weeds and invasive species.	4	4	2	1	10	+	L	Develop a rehabilitation and revegetation protocol; develop an alien and invasive vegetation identification and management programme; and ensure ongoing monitoring of rehabilitation areas.	Ongoing	Environmental control officer/Proponent/Ecologist/ Contractor	Included in closure costs.
Impacts on surrounding habitat/species, including ecosystem functioning.	Active Rehabilitation	4	4	2	2	20	-	L	Ensure proper soil preparation, seed mixture development and establishment of sufficient vegetation cover; prevent infestation of nearby areas and rehabilitation areas by weeds and invasive species.	4	4	2	1	10	+	L	Develop a rehabilitation and revegetation protocol; develop an alien and invasive vegetation identification and management programme; and ensure ongoing monitoring of rehabilitation areas.	Ongoing	Environmental control officer/Proponent/Ecologist/ Contractor	Included in closure costs.
Re-vegetation will be undertaken on the decommissioned and rehabilitated areas before mine closure.	Active Rehabilitation	6	3	1	3	30	+	M	Compacted soils will be ripped and topsoil will be replaced. After the topsoil has been replaced the area should be ameliorated and seeded, should self-succession of vegetation not take place. Only species indigenous to the area will be included. Remove alien vegetation post decommissioning, with long term follow-up afterwards.	6	4	2	4	48	+	M	Continuous rehabilitation of the decommissioning area will be conducted in line with the Best Practice Guidelines released by the DWA. DBM will appoint a specialist to this effect.	Ongoing	Environmental control officer/Proponent/Ecologist/ Contractor	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 2: ACTIVE REHABILITATION																				
Issues related to AIR QUALITY																				
All activities associated with the removal of infrastructure has the potential to release dust.	Active Rehabilitation	6	3	2	4	44	-	M	The dust monitoring network and dust suppression programme as set up during the construction phase of the project will be updated and implemented throughout the closure phase of the mine.	6	2	2	3	30	-	M	Dust sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer	R 92 000.00
																	Monthly monitoring reports will be generated by the mine or through a suitably qualified air quality specialist.	Monthly	Environmental Control Officer/Air Quality Specialist	R 42 000.00
																	In the event that air quality or dust issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Control Officer/Air Quality Specialist	To be determined - depending on severity of incident
																	Ensure optimal implementation and maintenance of the dust suppression programme.	Ongoing	Environmental Control Officer	Included in closure costs.
																	The road surface will to be watered on a daily basis.	Daily	Environmental Control Officer	Included in closure costs.
																	The road surface will to be maintained on a weekly basis.	Weekly	Environmental Control Officer	Included in closure costs.
Fugitive dust emissions as a result of dust entrainment.	Rehabilitation activities	6	5	2	4	52	-	M	Revegetation of dumps on closure.	2	5	2	4	36	-	M	Allocation of resources to ensure revegetation and cladding of dump at closure.	On closure/annually	Environmental Control Officer	Included in closure costs.
Issues related to NOISE																				
All activities associated with the removal of infrastructure and rehabilitation have the potential to generate noise.	Heavy vehicle movement	8	2	2	4	48	-	M	The removal of all infrastructure is to take place during daytime periods only.	6	2	2	3	30	-	M	Where noise becomes a nuisance, management measures will be investigated and implemented to address these.	Ongoing	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
																	Machinery with low noise levels and maintained in a good order to be used and to comply with the IFC's Health and Safety Regulations.	Ongoing	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
									Speed control measures will be implemented by the mine through the placement of adequate signage.								Implement a penalty system for non-compliance to speed control measures and ensure that all workers are made aware of the penalty systems.	Ongoing	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
									Gravel roads to be maintained in as good and smooth a condition as possible.								The road surface will to be maintained on a weekly basis.	Weekly	Environmental Control Officer	Included in closure costs.
Issues related to TRAFFIC																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
The rehabilitation (ripping, topsoil replacement and landscaping) will remove the visual incongruity.	Infrastructure removal	6	5	2	4	52	+	M	An overall visual improvement will be noticed once all mining related infrastructure has been demolished and the area has been landscaped and re-vegetated.	8	5	2	4	60	+	M	Demarcate the decommissioning area and limit the decommissioning activities as far as possible.	Prior to Decommissioning Phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
																	Final shaping will be implemented such that the final profile of the rehabilitated areas are formed to emulate natural contours of the area.	During Closure Phase	Environmental Control Officer/Project Manager	Included in closure costs.
																	Foundations will be removed to a depth of 1 m below the surface and the area rehabilitated.	During Closure Phase	Environmental Control Officer/Project Manager	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 2: ACTIVE REHABILITATION																				
																	All material recovered from the demolition of buildings and/or structures will either be transported to a permitted disposal site, or made available to the local community as building materials (provided they are in a satisfactory condition following demolition).	During Closure Phase	Environmental Control Officer/Project Manager	Included in closure costs.
																	Linear infrastructure constructed by the mine (i.e. roads, conveyors and power lines) will be removed if it proves to inhibit land use at decommissioning.	During Closure Phase	Environmental Control Officer/Project Manager	Included in closure costs.
																	All fences erected around the mine will be dismantled and disposed of at a permitted disposal site.	During Closure Phase	Health and Safety Officer/Project Manager/ Environmental Control Officer	Included in closure costs.
Issues related to SOCIAL																				
Disruption and nuisance factors associated with the actual decommissioning such as noise, visual and traffic related impacts.	Nuisance	8	3	2	4	52	-	M	Local residents, with the focus on the surrounding landowners, should receive accurate information with regards to the project status, timeframes for decommissioning and other relevant information about issues that could influence their daily living and movement patterns.	6	2	2	3	30	-	M	The community forum established during the construction phase and implemented throughout the operational phase of DBM should continue, through which issues can be addressed, and a representative from DBM should become involved.	Ongoing	Environmental Control Officer	N/A
Issues related to HERITAGE																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Removal of surface infrastructure following mine closure will largely result in similar impacts to the initial establishment of infrastructure, as soils are disturbed and exposed to erosion.	Increased sediment movement	6	5	1	3	36	-	M	Earthworks and vegetation clearing activities should also be phased to minimize the extent of disturbed areas at any one time. Earthworks and vegetation clearing activities on site should ideally be undertaken during the dry season to minimize sediment transport during surface runoff following rainfall events.	4	5	1	1	10	-	L	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A
																	Markers and pegs will be erected and maintained along the boundaries of the working areas, access roads, haul roads and paths before commencing any work. If proved insufficient for control, these shall be replaced by fencing.	During closure and decommissioning phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in closure costs.
																	The contractor will ensure that all activities, material and equipment storage and personnel movement take place within the designated area.	During closure and decommissioning phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in closure costs.
																	Contractors will complete induction on the EMP, Environmental Awareness Plan and Emergency Response Plan prior to construction activities being undertaken. All workers will be made aware of the penalty systems for non compliance.	During closure and decommissioning phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in closure costs.
									Temporary toe berms should be installed on the down slope side of large bare soils areas and any soil stockpiles to trap sediments eroded odd these areas.								The site should be monitored for erosion and sediment movement during and after rainfall events and suitable interventions put in place to repair any erosion damage and to prevent further sediment movement off the site.	During closure and decommissioning phase	Environmental Control Officer/ Project Manager/Health & Safety Officer	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 2: ACTIVE REHABILITATION																				
Clearing of vegetation and soil disturbance could lead to mobilisation of sediments and dust which may be blown or washed into receiving water bodies (wetlands and pans) within the vicinity. This would lead to increased turbidity (decreased water quality) which may have a negative impact on aquatic fauna. When the suspended solids (soil particles) settle out on the substrates in the wetlands, it leads to further deterioration in habitat quality. Sediments are colonised by Typha reeds or alien weeds, causing a decline in habitats during the wet season. This may result in a decline in overall aquatic biodiversity	Decline in habitats and biota	6	4	2	4	48	-	M	A biomonitoring plan should be compiled and implemented and should include assessments of water quality, habitats and aquatic macroinvertebrates. Sampling sites further down in the During River catchment should be included to assess impacts on downstream ecosystems.	6	4	1	2	22	-	L	Develop a biomonitoring plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	Included in closure costs.
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

Table 6-22: Impacts and Management Measures for Closure Phase Activities: Residual Impacts Post Closure

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
Issues related to GEOLOGY																				
No significant closure and decommissioning residual impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant closure and decommissioning residual impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Ongoing groundwater contamination	Ongoing TSF seepage	8	5	2	4	60	-	M	Vegetation of TSF, infiltration only rainfall dependent and therefore lower compared to operations	6	5	1	4	48	-	M	Update impact assessment for closure with monitoring data. Ongoing monitoring if required.		Mine Environmental Manager	Included in closure costs.
Contaminated groundwater reaching surface, impact nearby groundwater and surface water	Flooding of underground workings and potential decant	10	5	2	2	34	-	M	Investigate and determine impact of decant after closure.	10	5	2	2	34	-	M	Investigate and determine impact of decant after closure. Monitoring of mine flooding for 5 years after decommissioning	Quarterly	Mine Environmental Manager	Included in closure costs.
Groundwater contamination	Waste rock dump	4	4	1	3	27	-	L	Potential capping and vegetation	4	5	1	2	20	-	L	Update impact assessment for closure with monitoring data. Ongoing monitoring if required.		Mine Environmental Manager	Included in closure costs.
The groundwater levels in the underground mining area will probably recover during the decommissioning and post-closure phases when mine dewatering is stopped. The groundwater level recovery will depend on a) the extent of interaction and b) dewatering of neighbouring mines. No decant is foreseen due to the topographic position of the mine.	Cessation of dewatering	8	5	2	5	75	+	H	No mitigation for the recovery of groundwater levels is possible. Groundwater levels in the underground workings will recover.	10	5	3	5	90	+	H	Maintain groundwater quality and quantity monitoring programme.	N/A	N/A	Included in closure costs.
The single largest risk in terms of post closure impacts is that of aquifer contamination caused by leachate from the new TSF to be located on the Merriespruit TSF.	Cessation of dewatering	10	5	3	5	90	-	H	Kinetic leach testing and geochemical modelling be undertaken on the tailings in order to evaluate the expected long-term seepage quality emanating from the TSF	8	5	3	3	48	-	M	Maintain groundwater quality and quantity monitoring programme.	N/A	N/A	Included in closure costs.
Groundwater contaminant plume as a result of the flooded mining areas.	Flooded mining areas	10	5	3	5	90	-	H	Groundwater levels in the underground workings will recover. Pollution plumes may migrate to boreholes intersecting deeper aquifers. All mined areas should be flooded as soon as possible to bar oxygen from reacting with remaining pyrite. Groundwater sampling must be undertaken to establish a database of plume movement trends, to aid eventual mine closure.	8	3	2	5	65	-	H	Groundwater quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Coordinator	R 91 000.00
																	Quarterly groundwater monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental Coordinator/Water Quality Specialist	R 42 000.00
																	In the event that water quality or quantity issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Coordinator/Water Quality Specialist	To be determined - depending on severity of incident
Issues related to HYDROLOGY																				
Runoff from rehabilitated areas will impacts on watercourses especially during intensive rainstorms especially if the area are not free draining.	Active Rehabilitation	6	5	3	3	42	-	M	Berms, should they be necessary, must remain upstream and downstream of the dumps and stockpiles to ensure that clean water is kept separate from dirty water until the area is free draining and re-vegetation has occurred.	6	5	2	1	13	-	L	Continuous rehabilitation of the decommissioning area will be conducted in line with the Best Practice Guidelines released by the DWA. DBM will appoint a specialist to this effect.	Ongoing	Environmental Control Officer	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
Overtopping of Pollution Control Dams may impact on the surface water quality.	Decanting	8	4	2	4	56	-	M	Pending the decant quality various treatment options could be considered. These include pH adjustment and controlled release or containment.	6	4	2	3	36	-	M	DBM will obtain approval from the appropriate government department on the treatment options before implementing.	Prior to closure	Environmental Coordinator/Water Quality Specialist	To be determined.
									Collection of decant into a purposely dedicated pollution control dam which may require lining pending the expected water quality.								Pollution control dams should take into account the requirements of GN704 with regards to design capacities.	Prior to closure	Environmental Coordinator/Water Quality Specialist	To be determined.
Continued flows of polluted water from mine drainage and TSF.	Water movement	4	5	3	4	48	-	M	A pollution control dam or treatment works that safely contains or treats water must continue to operate.	4	5	1	1	10	-	L	Maintain water treatment plant operation as long as is necessary.	Ongoing	Environmental Control Officer	Included in closure costs.
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
Soil compaction	Transport to remove infrastructure	2	4	6	4	48	-	M	Restrict vehicle movement to haul roads, etc.	1	5	4	4	40	-	M	Implement mitigation in accordance with the mitigation measures proposed.	Ongoing	Environmental Control Officer	Included in closure costs.
Issues related to FAUNA AND FLORA																				
Loss, disruption of mammal migration routes	Residual Impacts	4	4	2	2	20	-	L	Ensure removal of major structures and barrriers; ensure safety of animals that might be present within the remaining footprint; ensure that no open pits or standing water remains.	4	4	2	1	10	-	L	Develop and implement a suitable monitoring and management programme with corrective measures.	Bi-annual	Environmental control officer/Ecologist	Included in closure costs.
Direct impacts on sensitive/ pristine habitat types	Residual Impacts	4	4	2	2	20	-	L	Ensure that no effluent from remaining infrastructure and mining areas result; ensure that alien and invasive vegetation are treated; ensure adequate rehabilitation is undertaken.	4	4	2	1	10	-	L	Develop and implement a suitable monitoring and management programme with corrective measures.	Bi-annual	Environmental control officer/Ecologist	Included in closure costs.
Direct impacts on common fauna species of the study area	Residual Impacts	2	4	2	2	16	-	L	Ensure removal of major structures and barriers; ensure safety of animals that might be present within the remaining footprint; ensure that no open pits or standing water remains.	2	4	2	1	8	-	L	Develop and implement a suitable monitoring and management programme with corrective measures.	Bi-annual	Environmental control officer/Ecologist	Included in closure costs.
Faunal interaction with structures, servitudes, personnel	Residual Impacts	2	4	2	2	16	-	L	Ensure removal of major structures and barriers; ensure safety of animals that might be present within the remaining footprint; ensure that no open pits or standing water remains.	2	4	2	1	8	-	L	Develop and implement a suitable monitoring and management programme with corrective measures.	Bi-annual	Environmental control officer/Ecologist	Included in closure costs.
Impacts on surrounding habitat/ species, including ecosystem functioning	Residual Impacts	4	4	2	2	20	-	L	Ensure that no effluent from remaining infrastructure and mining areas result; ensure that alien and invasive vegetation are treated; ensure adequate rehabilitation is undertaken.	4	4	2	1	10	-	L	Develop and implement a suitable monitoring and management programme with corrective measures.	Bi-annual	Environmental control officer/Ecologist	Included in closure costs.
Issues related to AIR QUALITY																				
The potential exists for fugitive dust emissions (wind entrained)	Nuisance	6	2	2	4	40	-	M	Re-vegetation of dump on closure	2	2	2	3	18	-	L	Allocation of resources for closure, cladding and re-vegetation of dump	On closure or annual	Environmental officer	R 500 000.00
																	Monthly monitoring reports will be generated by the mine or through a suitably qualified air quality specialist.	Monthly	Environmental Coordinator/Air Quality Specialist	R 42 000.00
																	In the event that air quality or dust issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Coordinator/Air Quality Specialist	To be determined - depending on severity of incident
Issues related to NOISE																				
No significant closure and decommissioning residual impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
No significant closure and decommissioning residual impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant closure and decommissioning residual impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
Increase in standard of living (broader community)	N/A	4	2	3	3	27	-	L	Implement according to the proposed action plan.	8	4	3	3	45	-	M	• To increase the standard of living locally, the contractors employed should aim to ensure that local or surrounding people are employed where possible. It is furthermore suggested that all the employees should be motivated to spend their earned income locally. This can be achieved by ensuring that the goods and services required by the employees are provided for locally (if possible). The onus will lie on local shop owners to ensure that the demanded for goods and services are met; and • The employment of local residents during operation (as far as practically possible) would increase the standard of living, since they would have a higher disposable income and less transportation costs.	Ongoing	Environmental Control Officer	Included in closure costs.
Increase in standard of living (local farmers)	N/A	8	4	2	3	42	-	M	Implement according to the proposed action plan.	6	3	1	3	30	-	M	• The reduced standard of living of affected landowners should be taken into consideration when determining the appropriate compensation of landowners.	Ongoing	Environmental Control Officer	Included in closure costs.
Conversion and diversification of land use	N/A	6	4	3	4	52	-	M	Implement according to the proposed action plan.	4	4	3	4	44	-	M	• Educate landowners in terms of their rights and responsibilities prior to the project going ahead; • Assist landowners in identifying ways to adapt their land uses; • Plan to avoid splitting agricultural land and natural habitats; • Integrate the mining area with regional land use planning objectives where possible; and • Take into account surrounding land uses and design post-mining land use options to support and enhance long-term development options.	Ongoing	Environmental Control Officer	Included in closure costs.
Capacity building (skills transfer)	N/A	6	2	3	4	44	+	M	Implement according to the proposed action plan.	10	3	3	4	64	+	H	• Recruit and train local residents to supply unskilled labour during the construction and operational phase; • The use of diverse activities should be stimulated, allied with, but not reliant on, construction related activities such as outsourcing catering activities to local businesses. The local municipality could assist local residents and business owners to garner the benefit associated with the spin-offs emanating from the proposed mine; • Stakeholders should be mutually accountable for increased opportunities regarding skills and	Ongoing	Environmental Control Officer	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
																	competency development (general education and technical training). This will enable active participation, not only in the construction sector, but also in other spheres of the economy, as well as providing opportunities for career enhancement; • Training should be concentrated on skills that can be readily transferred to other employment opportunities in the local area to avoid persons with trained skills leaving the area for work elsewhere; • The project implementers and/or the contractors should identify the required jobs to be undertaken prior to the construction phase to enable local recruitment and/or some form of basic training; • It is recommended that a comprehensive program for recruiting, hiring, training, orienting and counselling be established. The nature of the training provided does not need to be limited to specific project related tasks and can include financial planning, bookkeeping, general arithmetic etc; • The principles of the Expanded Public Works Programme must be adhered to and effective labour-based construction technologies must be used to increase the positive effects of job creation; • Ensure that stakeholders have knowledge of the support of legislation and regulations; • The implementation of the SLP should be monitored on an annual basis; • Ensure compliance to the BBSEC and MPRDA; and • Ensure that the employment and training of HDSA and women meet the requirements of the BBSEC.				
Actual health	N/A	8	4	2	4	56	-	M	Implement according to the proposed action plan.	4	4	3	3	33	-	M	• In order to reduce the impact on the local community it is important to maximise the use of local labour as far as possible; • Local labour should be employed as far as possible to avoid additional pressure on the existing services; • HIV / Aids awareness campaigns should be initiated by Wits Gold and provided to all its mine employees on a regular basis; • Wits Gold should investigate how they could assist in implementing a community health awareness programme in liaison with the LM; • Environmental pollution must be limited as far as possible and the requirements of the EMP be implemented to reduce the impact on surrounding landowners;	Ongoing	Environmental Control Officer	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
																	• Environmental pollution must be limited as far as possible and the requirements of the EMP be implemented to reduce the impact on surrounding landowners; • The necessary safety precautions should be taken and first aid supplies should be made available on site; • All mine employees (including contractors) should undergo health and safety training on a regular basis; • The general health of employees should be monitored on an on-going basis and employees should be given free access to clinic services; • It is advised that Wits Gold, through consultation with the LM investigate ways in which their LED programmes and infrastructure development component of their SLP can assist in improving the overall health services within the communities; and • The required safety equipment should be provided to employees as well as on site and should be in a good working order.			
Physical quality of the living environment	N/A	10	4	2	4	64	-	H	Implement according to the proposed action plan.	8	4	2	3	42	-	M	• Existing community forums must serve as liaison between the affected stakeholders and Wits Gold and can discuss traffic, dust, noise and construction related concerns with them; • Suppress dust by spraying water or non-contaminating palliative liquids on roads, crusher and screening plant, mills and vehicles; • Prevent dust blowing off transported materials by washing vehicles, wheels and covering loads; • Rehabilitate behind production with adequate top soiling, fertilisation, irrigation and correct choice of grasses to ensure year-round cover; • Prepare a noise reduction plan to cover all significant impacts at source and implement noise reduction and screening to limit exposure. Drilling and blasting is generally intermittent and should be limited to daylight hours when ambient noise levels are highest. A hearing conservation programme must be implemented where noise exceeds 85dB(A) in the mine or must not be more than 7dB(A) above ambient residual noise levels beyond mine boundary or nearest residential community; • The maximum acceptable night time noise levels should not be exceeded; • Traffic calming measures should be put in place to minimise traffic noise; • Adequate monitoring of the biophysical impacts should occur in order to address any unnecessary inconveniences to stakeholders;	Ongoing	Environmental Control Officer	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
																	• Mitigation and monitoring as recommended by the Water Quality Impact Assessments should be implemented; • Plant tall trees as barriers in gardens or in road reserve to reduce the visual and light intrusion, as well as noise impacts; • Recommendations made in the EMP and EMPr should be adhered to. • Rehabilitate behind production with adequate top soiling, fertilisation, irrigation and correct choice of grasses to ensure year-round cover; • Prepare a noise reduction plan to cover all significant impacts at source and implement noise reduction and screening to limit exposure. Drilling and blasting is generally intermittent and should be limited to daylight hours when ambient noise levels are highest. A hearing conservation programme must be implemented where noise exceeds 85dB(A) in the mine or must not be more than 7dB(A) above ambient residual noise levels beyond mine boundary or nearest residential community; • The maximum acceptable night time noise levels should not be exceeded; • Traffic calming measures should be put in place to minimise traffic noise; • Adequate monitoring of the biophysical impacts should occur in order to address any unnecessary inconveniences to stakeholders; • Mitigation and monitoring as recommended by the Water Quality Impact Assessments should be implemented; • Plant tall trees as barriers in gardens or in road reserve to reduce the visual and light intrusion, as well as noise impacts; and • Recommendations made in the EMP and EMPr should be adhered to.			
Aesthetic quality of the living environment	N/A	6	4	2	4	48	-	M	Implement according to the proposed action plan.	4	4	2	4	40	-	M	• The design and specific positioning of the infrastructure should aim to minimise the possible negative visual impact of the mine on the surrounding property owners; • The design of the mine buildings should blend in with surrounding environment; • Implement re-vegetation as levels are abandoned to break the form, reduce colour contrast, dust generation or contaminated runoff; and • Recycle dumps or use as backfill with appropriate permission.	Ongoing	Environmental Control Officer	Included in closure costs.
Availability and quality of housing	N/A	2	3	2	3	21	-	L	Implement according to the proposed action plan.	8	4	3	3	45	+	M	• Employees should be educated with regards to their accommodation options; • Housing needs should be monitored	Ongoing	Environmental Control Officer	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
																	and addressed in consultation and cooperation with the applicable LMs; and • Maximise the employment of locals to limit the need for any additional housing infrastructure, as far as possible.			
Adequacy and access to social infrastructure	N/A	6	3	2	2	22	-	L	Implement according to the proposed action plan.	8	4	2	4	56	+	M	• In consultation with the municipality and other mines operating in the area, ensure that the necessary planning for upgrades of social infrastructure, where lacking due to the proposed mine, take place; • Involvement in upliftment programmes should be done according to the priority needs and projects identified as part of the LMs IDP, as well as in consultation with other stakeholders such as the local community representatives, ward committees and youth organisations; • Continuous involvement of the mine would be necessary and should be undertaken in a transparent and supportive manner; • Implement a regular and formalised consultation process with local government to ensure synergy between the mine's social development and LED focus; • Communication of the projects that Wits Gold would be involved in should filter through to all community levels to ensure maximum benefit to the community; and • Community development projects initiated by Wits Gold should avoid benefiting only a selected few but should follow a broad based approach, whilst also taking budgeting constraints into consideration.	Ongoing	Environmental Control Officer	Included in closure costs.
Personal safety and hazard exposure	N/A	6	4	2	4	48	-	M	Implement according to the proposed action plan.	4	3	2	3	27	-	L	• Local, unemployed labour should be employed as far as possible; • Accommodation for members of the workforce, other than security personnel, must not be permitted on site; • The only semi-permanent structures that should be allowed on site is guard houses for security personnel; • Camp followers / informal traders must not be allowed to congregate outside the construction site; • Strict security measures should be put in place. Security personnel should be on site on a permanent basis; • Construction workers should be confined to the construction area and should wear uniforms or identity tags to be easily identified; • The mining area should be fenced to avoid unauthorised entry by humans or animals onto the mining area; • The contractor should communicate the construction schedule and vehicle	Ongoing	Environmental Control Officer	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
																	movements to the neighbouring property owners in advance; • Workers must not be allowed to overnight on the premises and must be transported to their places of residence by bus on a daily basis; • Workers must not be allowed to leave the designated mining areas without permission; • A Health and Safety Plan should be implemented and it must be ensured that all managers are trained in First Aid and other relevant safety courses; • Implement safety measures to limit fire hazards and implement fire breaks if possible; • Wits Gold should, in conjunction with the property owners, develop and implement emergency procedures; • Operational safety risks should be addressed as part of the OHS Act; • A Fire/Emergency Management Plan should be developed and implemented. It is important that this management plan and associated communication channels are developed at the outset of the construction phase. It would be important to regularly review the functionality and efficiency of such a plan in conjunction with the local emergency teams, mine management and neighbouring landowners; • Open fires for cooking and related purposes should not be allowed on site; • Appropriate fire fighting equipment should be on site and construction workers should be appropriately trained for fire fighting; • The construction sites should be clearly marked and “danger” and “no entry” signs should be erected; • Speed limits on the local roads surrounding the construction sites should be enforced; and • Speeding of construction vehicles must be strictly monitored.				
Crime and violence	N/A	4	3	3	2	20	-	L	Implement according to the proposed action plan.	4	2	3	2	18	-	L	• Local, unemployed labour should be employed as far as possible; • Wits Gold must liaise with the LMs and labour unions to establish a protocol for ensuring community safety; • Mine workers should be clearly identifiable by ensuring they wear uniforms and identification cards that should be exhibited in a visible place on their body; and • The AgriSA protocol for access to farms should be followed in all instances where access to farmers’ land is required.	Ongoing	Environmental Control Officer	Included in closure costs.
Loss of natural and cultural heritage	N/A	8	5	1	3	42	-	M	Implement according to the proposed action plan.	8	2	1	1	11	-	L	• The recommendations of the HIA should be implemented;	Ongoing	Environmental Control Officer	Included in closure costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
																	• Local residents and farmers should be consulted to determine any possible heritage sites not identified by the HIA; and • Local residents and farmers should inform mitigation measures when addressing any potential impact on cultural heritage sites or graves.			
Social networks	N/A	6	3	2	3	33	-	M	Implement according to the proposed action plan.	6	3	2	2	22	-	L	• Employ local residents as far as possible; • Make use of credible SMME's for the provision of goods and services; and • Embark on regular communication efforts towards the community with regards to the mine's involvement in the communities. This could be done through an already established community forum.	Ongoing	Environmental Control Officer	Included in closure costs.
Functioning of government agencies	N/A	8	3	3	4	56	-	M	Implement according to the proposed action plan.	6	4	3	3	39	-	M	• Assist the LM with the diversification of the local economy; • Emphasise the use of local service providers and SMMEs and focus on the development of LED programmes; and • Institute a joint municipal coordinating and implementing committee to support the municipality's local economic and social develop needs and requirements, where feasible.	Ongoing	Environmental Control Officer	Included in closure costs.
Impact equity (affected landowners)	N/A	8	4	1	3	39	-	M	Implement according to the proposed action plan.	6	3	1	2	20	-	L	• Negative impacts on the local property owners should be limited as far as possible such as intrusion impacts (dust, noise, and air pollution). Mitigation measures from the specialist studies dealing with these issues should thus be strictly implemented; • Safety and security measures are critical to avoid any increase in criminal activities within the local study area; and • The use of local labour must be maximised as far as possible.	Ongoing	Environmental Control Officer	Included in closure costs.
Impact equity (community members)	N/A	4	2	3	3	27	+	L	Implement according to the proposed action plan.	8	4	3	3	45	+	M	• Skills training and development should be maximised to benefit as many local employees as possible; and • The use of local labour must be maximised as far as possible.	Ongoing	Environmental Control Officer	Included in closure costs.
Gendered division of labour	Discrimination	4	3	3	2	20	+	L	Implement according to the proposed action plan.	6	4	3	3	39	+	M	• Women must have equal employment opportunities; • Training and skills development should take place for women; • Salaries of women should be equal to that of men when undertaking the same job; • Commitments made in the SLP with regard to the employment of women should be adhered to; and • Institute a well designed gender equality strategy on the mine.	Ongoing	Environmental Control Officer	Included in closure costs.
Disruption and nuisance factors associated with the actual decommissioning such as noise, visual and traffic related impacts.	Nuisance	8	3	2	4	52	-	M	Local residents, with the focus on the surrounding landowners, should receive accurate information with regards to the project status,	6	2	2	3	30	-	M	The community forum established during the construction phase and implemented throughout the operational phase of DBM should	Ongoing	Environmental Control Officer	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
									timeframes for decommissioning and other relevant information about issues that could influence their daily living and movement patterns.								continue, through which issues can be addressed, and a representative from DBM should become involved.			
Job losses due to mine closure and decline in local economy as a result of the loss of employment, household income and capital investments.	Job losses	8	5	3	4	64	-	H	Capacity building and skills training among employees are critical and would be highly beneficial to those involved, especially if they receive portable skills to enable them to also find work elsewhere and in other similar environments. The SLP approved as part of the Mining Right Application in the pre-construction phase aims to develop mechanisms and strategies to prevent job losses or, where these cannot be avoided, to implement appropriate plans to ameliorate the social and economic impact that downscaling of the operations and/or closure may have on employees, communities and the economy.	6	3	2	4	44	-	M	Where job losses are inevitable, minimise the extent of the job losses resulting from major restructuring or retrenchment exercises and to facilitate, as far as practically possible, access to alternative employment opportunities within the company.	During Closure and Decommissioning Phase	HR Manager	Included in SLP and closure costs.
Population changes and "out flux" of people from the area and a negative impact on the social fabric and social networks.	Population change	8	3	3	4	56	-	M	Wits Gold will undertake a detailed Social Impact Assessment when operations cease in order to determine the actual impacts on the changing social environment at that stage. During the operational phase of DBM, the Company will endeavour to create mine independent self-sustaining enterprises so that the effect of the mine closure on the local economy is minimised.	6	2	2	3	30	-	M	Appoint a Social Scientist to conduct a Social Impact Assessment and propose measures to mitigate population changes.	Prior to closure	HR Manager/Project Manager/ Environmental Control Officer	R 87 500.00
Possible negative impact on the crime levels due to job losses adding to the unemployment rate at that stage.	Safety and security risks	8	2	3	3	39	-	M	Wits Gold will undertake a detailed Social Impact Assessment when operations cease in order to determine the actual impacts on the changing social environment at that stage. During the operational phase of DBM, the Company will endeavour to create mine independent self-sustaining enterprises so that the effect of the mine closure on the local economy is minimised.	6	2	2	3	30	-	M	Appoint a Social Scientist to conduct a Social Impact Study and propose measures to mitigate safety and security risks.	Prior to closure	HR Manager/Project Manager/ Environmental Control Officer	R 87 500.00
Issues related to HERITAGE																				
No significant closure and decommissioning residual impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
Removal of surface infrastructure following mine closer will largely result in similar impacts to the initial establishment of infrastructure, as soils are disturbed and exposed to erosion.	Infrastructure removal	6	5	1	4	48	-	M	Rehabilitation earthworks and infrastructure clearing activities on site should be undertaken during the dry season to minimize sediment transport following rainfall events. Activities should also be phased to minimize the extent of disturbed areas at any one time. Temporary toe berms should be installed on the downslope side of large bare soils areas and any soil stockpiles to trap sediments eroded off these areas. The site should be monitored for erosion and sediment movement during and after rainfall events and suitable interventions put	4	5	1	3	30	-	M	Undertake rehabilitation in accordance with the mitigation measures proposed.	During closure and decommissioning phase	Environmental control officer	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
									in place to repair any erosion damage and to prevent further sediment movement. Following completion, bare soil areas should be ripped, scarified, landscaped and re-vegetated as soon as possible. Re-vegetated areas should be monitored to ensure successful re-establishment of vegetation. Ideally, 70 % cover should be obtained after 3 months. A mixture of indigenous grass species should be used for re-vegetation activities.											
Incomplete removal of infrastructure and waste following mine closure could provide sources of pollutants leading to water quality deterioration. Mobilisation of pollutants in contaminated soils due to disturbances of these areas during rehabilitation activities provides further potential pollution sources.	Pollutant mobilisation	6	3	2	4	44	-	M	Complete removal of all infrastructure and waste must be ensured following mine closure. Specialist contractors should be appointed to deal with areas of contaminated soil either through on site amelioration, if possible, or through the complete removal of the contaminated material and disposal on a registered hazardous waste facility.	4	3	1	3	24	-	L	Undertake rehabilitation in accordance with the mitigation measures proposed.	During closure and decommissioning phase	Environmental control officer	N/A
During mining, groundwater levels within the mine will be manipulated and maintained at low levels to allow for mining to take place. Following completion of mining activities the groundwater table is likely to rebound, raising the possibility that decant of mine water, which is likely to be acidic and sulphate and metal rich, could occur. This could result in significant water quality deterioration in receiving wetlands. No information on the acid generation potential of the ore was available, nor any information on the possibility or likely location of a decant point. As such, the precautionary principle was applied in assessing this impact.	Decant of Acid Mine Water	10	4	3	5	85	-	H	No decant or discharge of polluted mine water should be allowed to occur post-closure. If required, continuing pumping and treatment of polluted water should be implemented.	10	4	3	5	85	-	H	Only water meeting the requirements of the DWA standards should be allowed to decant or be discharged into any water course.	During closure and decommissioning phase	Environmental control officer	N/A
Clearing of vegetation and soil disturbance could lead to mobilisation of sediments and dust which may be blown or washed into receiving water bodies (wetlands and pans) within the vicinity. This would lead to increased turbidity which may have a negative impact on aquatic fauna. When the suspended solids (soil particles) settle out on the substrates in the wetlands, it leads to further deterioration in habitat quality. Sediments are colonised by Typha reeds or alien weeds, causing a decline in habitats during the wet season. This may result in a decline in overall aquatic biodiversity. Water quality impacts, resulting from spills, leaks, dust, seepage (from stockpiles, or tailings facilities) or decanting mine water will result in the loss of taxa that may be sensitive to a decline in water quality. In addition, altered hydrology, in terms of timing, duration and quantity of water will affect habitat	Vegetation clearance	8	4	3	5	75	-	H	Implementation of all mitigation measures listed previously for erosion control and water quality management will reduce the severity of impacts. No decant or discharge of polluted mine water should be allowed to occur post-closure. If required, continuing pumping and treatment of polluted water should be implemented. Only water meeting the requirements of the DWA standards should be allowed to decant or be discharged into any water course. An emergency preparedness plan should be compiled and implemented in the event of major spills (e.g. fuel, mine water or sewage spill). Dust suppression measures should be used. A biomonitoring plan should be compiled and implemented and should include assessments of water quality, habitats and aquatic macroinvertebrates. Sampling sites further down in the Doring River catchment should be included to assess impacts on downstream ecosystems.	6	5	3	4	56	-	M	Undertake rehabilitation in accordance with the mitigation measures proposed.	During closure and decommissioning phase	Environmental control officer	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 3: RESIDUAL IMPACTS POST CLOSURE																				
availability. Reduced flows or shorter periods of inundation may impact on habitats and aquatic fauna.									All mitigation measures relating to water quality should be audited with prompt follow-up action taken in the event of non-compliances.											
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

6.8 SOFS DBM Project Extension Closure Impacts

During the closure phase the possible impact associated with the underground mining operations will be discussed in this section. The Operational Activities only include underground mining at this stage of the planning.

6.8.1 Hydrogeology

The groundwater levels in the underground mining area will probably recover during the decommissioning and post-closure phases when mine dewatering is stopped. The groundwater level recovery will depend on a) the extent of interaction and b) dewatering of neighboring mines.

Table 6-20 provides the Impact Assessment Table for the possible impact during the closure phase of the project as well as the proposed mitigation measures to manage the possible impacts.

Table 6-23: Construction Impacts for the SOFS DBM Project Extension

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 1: REMOVAL OF INFRASTRUCTURE																				
Issues related to GEOLOGY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Contaminated groundwater reaching surface, impact nearby groundwater and surface water	Flooding of underground workings and potential decant	10	5	2	2	34	-	M	Investigate and determine impact of decant after closure.	10	5	2	2	34	-	M	Investigate and determine impact of decant after closure. Monitoring of mine flooding for 5 years after decommissioning	Quarterly	Mine Environmental Manager	Included in closure costs.
Issues related to HYDROLOGY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to FAUNA AND FLORA																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to AIR QUALITY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No additional impacts from SOFS DBM Project Extension. Same as Phase 1.	0	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant closure and decommissioning impacts are envisaged.	0	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to CLIMATE CHANGE																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A

6.9 Cumulative Impacts

Section 2 of the NEMA requires the consideration of cumulative impacts as part of any environmental assessment process. Furthermore this is carried forward into Regulation 385 which requires assessment of cumulative impacts in an EIA Report. EIA's have traditionally, however, failed to come to terms with such impacts, largely as a result of the following considerations:

- Cumulative effects may be local, regional or global in scale and dealing with such impacts requires co-ordinated institutional arrangements; and
- EIA's are typically carried out on specific developments, whereas cumulative impacts result from broader biophysical, social and economic considerations, which typically cannot be addressed at the project level.

Cumulative impacts associated with this type of development could lead to initial, incremental or augmentation of existing types of environmental degradation, including impacts on the air, soil and water present within available habitat. Pollution of these elements might not always be immediately visible or readily quantifiable, but incremental or fractional increases might rise to levels where biological attributes could be affected adversely on a local or regional scale. In most cases are these effects are not bound and is dispersed, or diluted over an area that is much larger than the actual footprint of the causal factor. Similarly, developments in untransformed and pristine areas are usually not characterised by visibly significant environmental degradation and these impacts are usually most prevalent in areas where continuous and long-term impacts have been experienced.

The nature of the development is such that pollution and degradation of the surrounding areas are expected to some extent.

Cumulative impacts are assessed over the entire lifespan of the mining operation and are therefore not broken down into the construction, operation and decommission phases as was performed for the EIA.

6.9.1 Groundwater

The groundwater levels in the underground mining area will probably recover during the decommissioning and post-closure phases when mine dewatering is stopped. The groundwater level recovery will depend on a) the extent of interaction and b) dewatering of neighbouring mines. No decant is foreseen due to the topographic position of the mine. The single largest risk in terms of post closure impacts is that of aquifer contamination caused by leachate from

the new TSF to be located on the Merriespruit TSF. Static leach tests that were undertaken on a comprehensive tailings sample indicated arsenic (As) concentration of 11 mg/l and sulphate concentration of 700 mg/l at a water. A plume could potentially migrate a 1000 m in a north-westerly direction from the TSF a hundred years after closure.

Pyrite (FeS_2) is present as minor mineral in the tailings. Pyrite will be the major contributor to the products of acid-mine drainage in the tailings. Carbonate minerals which are responsible for buffering, are absent in the tailings and therefore the tailings sample will have a definite potential to produce acid drainage over the long term.

- Various metals were also found in the tailings water in elevated concentrations which exceeded the SANS 241 drinking water standard. These elevated metals include Al, As, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb and Sb. These metals are likely to be associated with the tailings material and could therefore impact on both surface water and groundwater resources. The constituents SO4, EC and NH3 were also found in levels exceeding the SANS 241 drinking water standard. The total cyanide level exceeds the screening level SSV1 for Human Health and water resource protection and therefore poses a potential risk to the groundwater.

6.9.2 Hydrology

The cumulative impact of concern in the project area relates to the potential for surface water quantity and quality reduction, as well as potential catchment alteration.

It is anticipated that most risks posed to local surface water resources could be effectively managed by an appropriate storm-water management plan.

- Deep seepage from tailings and slimes facilities into local watercourses is unlikely due to the location of discard facilities far from rivers and streams. It is possible that a TSF located towards the east of the planned discard area could allow seepage into deep and well-drained sandy soils that will eventually seep into local river systems. The design of TSFs should consider seepage risks and, if needed, make allowance for sealing or lining of the base of a tailings dam.
- Other seepage will be collected by means of return water drains and transferred to return water dams. In this case, where stormwater will be treated and discharged, water from return water dams should be considered first priority water supply to processing and treatment plants.
- A concern that needs to be considered is that dust created in TSFs could add to local atmospheric pollution. Dust from the tailings dams of other mines in the vicinity of

the town of Virginia is widely claimed to pose health risks to local inhabitants. Dust suppression on the TSFs constructed for this mine is considered to be important.

- Dirty water runoff conveyance and storage systems at the mine will be controlled by structures and control measures prescribed in the Storm-water Management Plan.

6.9.3 Ecological (Fauna and Flora)

- Cumulative Impacts:
    - Impacts on SA's conservation obligations & targets (VEGMAP vegetation types);
    - Increase in local and regional fragmentation/ isolation of habitat; and
    - Increase in environmental degradation, pollution (air, soils, surface water).

6.9.4 Wetlands

Two hillslope seepage wetlands will be directly impacted by the proposed surface infrastructure layout and will likely be completely and permanently destroyed during site clearing activities preceding construction. In addition, the existing gravel road crossing over wetland unit 2 will be upgraded as the main access road to the mine shaft. Upgrading and widening of this road will result in further wetland loss.

The most significant impact will be from:

- Loss of wetland habitats;
- Erosion due to stormwater runoff;
- Altered hydrology; and
- Water quality impacts (spills, leaks, acid rock drainage and decant) and associated loss of biota.

6.9.5 Soil, Land Use and Land Capability

The following impacts on soil and land capability are anticipated for the project:

- Soil erosion due to steep slopes and vegetation clearance;
- Topsoil degradation;
- Soil compaction due to regular heavy vehicle transport;
- Chemical soil pollution as a result of potential spillage of petroleum hydrocarbons and other soil pollutants as well as the chemical pollution potential of the chemicals used for gold mining processes;
- Loss of agricultural potential and arable land capability;

- Loss of wetland land capability; and
- Loss of grazing and wilderness land capability.

6.9.6 Air Quality

The proposed activities will result in dust emissions, both from mining activities and fugitive emissions from the large areas of previously vegetated land that will now be exposed. Provided sufficient mitigation measures are instigated, it is unlikely that these emissions resulting from mining activity will result in the exceedence of South Africa's guidelines for particulate emissions.

The dump is an area of concern, although it is impossible to determine whether the emissions that result from Wits Gold DBM's activities will increase or decrease the fugitive dust emissions from the dump in question. It is recommended that care be taken in the design and structure of the dump, and that the existing dust fall out monitoring network be redesigned to centre around the dump, with monitors in the sensitive reception areas of Virginia and Meloding.

6.9.7 Traffic

It is evident that the traffic generated by the proposed development does not have a significant impact on the external road network. In terms of the intersection and road link capacity, no improvements are recommended since the intersections under investigation are expected to operate at acceptable level of service.

The interaction (turning movements) between construction vehicles, public transport and privates vehicles might impose some safety hazardous to the vehicles drivers. It is therefore recommended that the following measures be adopted to mitigate the impact:

- Surfacing of S239 Road between Virginia Way and the S239 / Access Road intersection.
- Construction of an exclusive right turn lane, on the northbound approach as indicated in Drawing 2984/GL/01 – Appendix B. The exclusive right turn lane should be constructed with a 60m long and a 60m tapper.
- Provision of light at sufficient standards at the intersection of the S239 (Theunissen Street), S1279 and Jan Hofmeyer Street routes and the access to the development.
- No on-street pick up/drop offs at the intersection of the S239 (Theunissen Street) S1279 and Jan Hofmeyer Street routes and the access to the development (drop-offs/pickup should be done on site).

6.9.8 Heritage

6.9.8.1 Site 1

The development will have a direct impact on site 1. The exact nature thereof is however not known and should be confirmed by the client. Due to the sensitivity of this issue, graves are always regarded as having a high cultural significance.

With graves it usually is best to incorporate them into the development plan for the site. Should this be possible, the graveyard should then be fenced off and kept intact. Access to any descendants should also be allowed. A management plan needs to be drafted and implemented and it should also be monitored once a year by a heritage expert.

Should the above not be possible the graves will have to be exhumed and the bodies reburied. This is a lengthy process including social consultation for 60 days in order to find families of the deceased and to obtain their permission.

In the case of graves older than 60 years and those with an unknown date of death (as in this case) an archaeologist as well as an undertaker will have to be part of the team involved. For graves with a date of death of younger than 60 years, only an undertaker is involved.

6.9.8.2 Site 2

Site 2 falls to the west and just outside of the footprint area of the proposed mining development. Therefore there will not be a direct impact on the site, but there will be a secondary one. The buildings are regarded as having a medium cultural significance. It still is in a good condition, but is not very unique.

The buildings should remain intact and may even be reutilized. Any structural changes should be communicated with the Provincial Heritage Resources Agency (PHRA) of the Free State Province and a permit will be required to do so. The buildings should not be demolished.

6.9.9 Social

The social change processes shown in the figure below are expected to take place as a result of this project.

Demographic processes	Economic processes	Geographic processes
• In-migration; • Presence of temporary workers; • Resettlement; and • Displacement / dispossession.	• Waged labour; and • Conversion and diversification of economy.	• Conversion and diversification of land use; • Enhanced transport and rural accessibility; and • Physical splintering.
Institutional and legal processes	**Emancipatory and empowerment processes**	**Socio-cultural processes**
• No impacts are expected.	• Capacity building.	• Social behaviour.

It is important to pause here and clarify that the actual impacts experienced at a given project site will depend on a variety of factors, that range between the baseline conditions, the public participation process, engagement and capacity building that has taken place, the type of mining methods and minerals mined, the role of politics, most notably in local municipalities and the other processes of social change either already under way (e.g. due to exploration activities), or which may develop during the life of the mine.

6.9.10 Radiation

Impact on public safety as a result of exposure to radioactivity.

Table 6-24 details the identified impacts and management measures for the cumulative impacts.

Table 6-24: Impacts and Management Measures for Cumulative Impacts

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CUMULATIVE IMPACT ASSESSMENT																				
Issues related to GEOLOGY																				
No significant cumulative impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
Change in topographical characteristics of the site.	Mining	8	4	2	4	56	-	M	Rehabilitation of the area to be free-draining.	4	4	1	3	27	-	L	Rehabilitate the area concurrent with mining activities and ensure that the area is free draining at completion of the rehabilitation.	Ongoing	Environmental Control Officer	Included in operational costs.
Issues related to GEOHYDROLOGY																				
Potential groundwater contamination risk	Ore stockpiles at plant- seepage of contaminated water to aquifer	6	4	1	4	44	-	M	Concrete slabs with seepage control measures and storm water management	2	4	1	2	14	-	L	Divert seepage and run-off to lined PCD's, concrete slaps with seepage control, groundwater quality monitoring	Quarterly monitoring	Mine Environmental Manager	Included in operational costs.
Contaminant soil could impact on groundwater quality	Plant, PCD's, workshops, other infrastructure	4	5	1	3	30	-	M	Removal of dirty soil to landfill	2	5	1	2	16	-	L	Removal of dirty soil to landfill	At closure	Mine Environmental Manager	Included in operational costs.
Ongoing groundwater contamination	Ongoing TSF seepage	8	5	2	4	60	-	M	Vegetation of TSF, infiltration only rainfall dependent and therefore lower compared to operations	6	5	1	4	48	-	M	Update impact assessment for closure with monitoring data. Ongoing monitoring if required.		Mine Environmental Manager	Included in operational costs.
Contaminated groundwater reaching surface, impact nearby groundwater and surface water	Flooding of underground workings and potential decant	10	5	2	2	34	-	M	Investigate and determine impact of decant after closure.	10	5	2	2	34	-	M	Investigate and determine impact of decant after closure. Monitoring of mine flooding for 5 years after decommissioning	Quarterly	Mine Environmental Manager	Included in operational costs.
Groundwater contamination	Waste rock dump	4	4	1	3	27	-	L	Potential capping and vegetation	4	5	1	2	20	-	L	Update impact assessment for closure with monitoring data. Ongoing monitoring if required.		Mine Environmental Manager	Included in operational costs.
Increase in environmental degradation - groundwater contamination and/or availability.	Contamination	10	5	3	5	90	-	H	Groundwater quality monitoring networks must be set up prior to the construction phase so that any surface water quality issues can be addressed accordingly. Groundwater levels in the underground workings will recover. Pollution plumes may migrate to boreholes intersecting deeper aquifers. All mined areas should be flooded as soon as possible to bar oxygen from reacting with remaining pyrite. Groundwater sampling must be undertaken to establish a database of plume movement trends, to aid eventual mine closure.	8	3	2	5	65	-	H	Groundwater quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer	R 91 000.00
																	Quarterly groundwater monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental Control Officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality or quantity issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Control Officer/Water Quality Specialist	To be determined - depending on severity of incident
Issues related to HYDROLOGY																				
Erosion, siltation and hydrocarbon contamination of surface water resources during the operational phase of mining.	Contamination	8	4	2	4	56	-	M	Surface water quality monitoring networks must be set up prior to the construction phase so that any surface water quality issues can be addressed accordingly.	6	4	2	3	36	-	M	Surface water quality sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer	R 91 000.00
																	Quarterly surface water monitoring reports will be generated by the mine or through a qualified water quality specialist.	Quarterly	Environmental Control Officer/Water Quality Specialist	R 42 000.00
																	In the event that water quality issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Control Officer/Water Quality Specialist	To be determined - depending on severity of incident
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CUMULATIVE IMPACT ASSESSMENT																				
Every additional mining operation that may open in the region will result in areas with potential agricultural soil being degraded to low production potential. This will result in lower yields possible for farmers in the area.	Loss of high potential agricultural soil	6	4	3	4	52	-	M	Rehabilitate productive land back to original conditions where possible.	4	3	1	3	24	-	L	During closure and decommissioning phases the land capability of agriculture and/or grazing should be restored to as near as pre-mining conditions as possible.	During Closure and Decommissioning Phase	Environmental Control Officer	Included in operational costs.
Once mining has ceased, land may not be restored back to a desired land capability that will sustain crop production. Land capability is rarely restored back to grazing capability and most land is usually left to wilderness land capability.	Loss of arable land capability	6	4	3	4	52	-	M												
Issues related to FAUNA AND FLORA																				
Impacts on SA's conservation obligations & targets.	Land clearance	8	5	4	2	34	-	M	Limit development footprint within approved area only; prevent impacts in adjacent natural habitat.	6	5	2	2	26	-	L	Early identification and prevention of impacts.	Ongoing	Environmental control officer	Included in operational costs.
Increase in local & regional fragmentation/isolation of habitat.	Land clearance	6	5	2	4	52	-	M	Limit development footprint within approved area only; prevent impacts in adjacent natural habitat.	4	5	2	2	22	-	L	Early identification and prevention of impacts.	Ongoing	Environmental control officer	Included in operational costs.
Increase in environmental degradation, pollution of air, soils and water.	Land clearance	6	4	2	4	48	-	M	Prevent peripheral impacts from affecting nearby sensitive areas.	4	4	2	2	20	-	L	Early identification and prevention of impacts.	Ongoing	Environmental control officer	Included in operational costs.
Issues related to AIR QUALITY																				
The modelled data indicates that activity on the dump in question may lead to an increase in ambient PM10 levels over the towns of Virginia and Meloding, with the bulk of these impacts falling on farmland to the south and southwest.	Air pollution	6	4	3	3	39	-	M	A dust monitoring network must be set up prior to the construction phase so that any air quality or dust issues can be addressed accordingly. Although impacts associated with the dust emitting activities within the mine boundary (crushing and ore handling) seem insignificant, every effort should be made to mitigate against any fugitive emissions from these sources. Due to the inherent limitations in dust emission modelling and the extremely stressed nature of this airshed it is recommended that every effort be made to limit dust emissions from the active mine areas.	4	4	2	3	30	-	M	Dust sampling will be undertaken on a monthly basis and analysed according to the prescribed monitoring programme contained in the EIA/EMP.	Monthly	Environmental Control Officer	R 92 000.00
																	Monthly monitoring reports will be generated by the mine or through a suitably qualified air quality specialist.	Monthly	Environmental Control Officer/Air Quality Specialist	R 42 000.00
																	In the event that air quality or dust issues are identified based on the monitoring programme, an independent specialist should be appointed to determine the best course of action to ameliorate the situation.	In the event of occurrence	Environmental Control Officer/Air Quality Specialist	To be determined - depending on severity of incident
Issues related to NOISE																				
Increase in environmental degradation and pollution.	Noise pollution	8	4	2	4	56	-	M	Noise monitoring will be undertaken as specified in the noise monitoring programme.	6	4	2	3	36	-	M	Implement acoustic screening measures as specified in noise monitoring programme.	Ongoing	Environmental Control Officer	Included in operational costs.
Issues related to TRAFFIC																				
Increase in traffic volumes	Traffic increases	6	4	3	3	39	-	M	Monitor and mitigate frequently.	4	4	3	2	22	-	L	Setup a traffic monitoring and action plan.	Monthly	Environmental Control Officer	Included in Construction and Operational Costs
Traffic safety issues	Traffic increases	6	4	3	3	39	-	M	Monitor and mitigate frequently.	4	4	3	2	22	-	L	Setup a traffic monitoring and action plan.	Monthly	Environmental Control Officer	Included in Construction and Operational Costs
Increase in environmental degradation and pollution.	Traffic increases	8	4	2	5	70	-	H	Traffic counts to be undertaken throughout the life of mine to identify and monitor traffic volumes.	6	4	2	4	48	-	M	Implement and monitor the traffic volumes throughout the life of mine.	Quarterly	Environmental Control Officer	R 125 000.00
Issues related to VISUAL																				
Increase in environmental degradation and pollution.	Expansion of tailings facility	10	4	2	4	64	-	H	The tailings facility will continue to expand in size/height during the operational phase of the mine. The tailings facility will remain post closure, and significantly alter the visual characteristics of the area.	6	4	2	3	36	-	M	Ensure ongoing rehabilitation on the sides of the tailings facility and that adequate dust suppression techniques are implemented.	Ongoing	Environmental Control Officer/Air Quality Specialist	Included in operational costs.
Issues related to SOCIAL																				

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CUMULATIVE IMPACT ASSESSMENT																				
Disruption and nuisance factors associated with the actual decommissioning such as noise, visual and traffic related impacts.	Nuisance	8	3	2	4	52	-	M	Local residents, with the focus on the surrounding landowners, should receive accurate information with regards to the project status, timeframes for decommissioning and other relevant information about issues that could influence their daily living and movement patterns.	6	2	2	3	30	-	M	The community forum established during the construction phase and implemented throughout the operational phase of DBM should continue, through which issues can be addressed, and a representative from DBM should become involved.	Ongoing	Environmental Control Officer	N/A
Job losses due to mine closure and decline in local economy as a result of the loss of employment, household income and capital investments.	Job losses	8	5	3	4	64	-	H	Capacity building and skills training among employees are critical and would be highly beneficial to those involved, especially if they receive portable skills to enable them to also find work elsewhere and in other similar environments. The SLP approved as part of the Mining Right Application in the pre-construction phase aims to develop mechanisms and strategies to prevent job losses or, where these cannot be avoided, to implement appropriate plans to ameliorate the social and economic impact that downscaling of the operations and/or closure may have on employees, communities and the economy.	6	3	2	4	44	-	M	Where job losses are inevitable, minimise the extent of the job losses resulting from major restructuring or retrenchment exercises and to facilitate, as far as practically possible, access to alternative employment opportunities within the company.	During Closure and Decommissioning Phase	HR Manager	Included in SLP and closure costs.
Population changes and "out flux" of people from the area and a negative impact on the social fabric and social networks.	Population change	8	3	3	4	56	-	M	Wits Gold will undertake a detailed Social Impact Assessment when operations cease in order to determine the actual impacts on the changing social environment at that stage.	6	2	2	3	30	-	M	Appoint a Social Scientist to conduct a Social Impact Assessment and propose measures to mitigate population changes.	Prior to closure	HR Manager/Project Manager/ Environmental Control Officer	R 87 500.00
Possible negative impact on the crime levels due to job losses adding to the unemployment rate at that stage.	Safety and security risks	8	2	3	3	39	-	M	Wits Gold will undertake a detailed Social Impact Assessment when operations cease in order to determine the actual impacts on the changing social environment at that stage.	6	2	2	3	30	-	M	Appoint a Social Scientist to conduct a Social Impact Study and propose measures to mitigate safety and security risks.	Prior to closure	HR Manager/Project Manager/ Environmental Control Officer	R 87 500.00
Issues related to HERITAGE																				
Evidence of 2 sites of archaeological/cultural importance occur within the greater project area. Potential impacts on these must be minimised.	Graves/ grave yards	8	4	2	3	42	-	M	Should it be directly impacted on by the mine the graves may be exhumed and the human remains reburied. Before this may happen the necessary advertising, possible social consultation and permitting applications should be implemented. Should the graves however not be impacted on directly, there will definitely be a secondary impact. The graves should then be fenced in a management plan for the preservation and maintenance thereof be written.	4	4	2	2	20	-	L	It is possible that more cultural sites may be present. Also the subterranean presence of archaeological and/or historical sites, features or artefacts are always a distinct possibility. Care should also be taken when development work commences that if any more artefacts are uncovered, a qualified archaeologist be called in to investigate.	Ongoing	Environmental Control Officer	N/A
Issues related to WETLANDS																				
Clearing of vegetation and soil disturbance could lead to mobilisation of sediments and dust which may be blown or washed into receiving water bodies (wetlands and pans) within the vicinity. This would lead to increased turbidity (decreased water quality) which may have a negative impact on aquatic fauna. When the suspended solids (soil particles) settle out on the	Decline in habitats and biota	6	4	2	4	48	-	M	The loss of these wetlands could be offset through the implementation of a wetland management and rehabilitation plan for the remaining wetlands within the study area that aims to improve the condition of these wetlands and the role they play in especially biodiversity support, which is considered to be the most	6	4	1	2	22	-	L	Develop a wetland management and rehabilitation plan, and implement throughout the construction, operation and closure phases of the mine.	Ongoing	Environmental control officer	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CUMULATIVE IMPACT ASSESSMENT																				
substrates in the wetlands, it leads to further deterioration in habitat quality. Sediments are colonised by Typha reeds or alien weeds, causing a decline in habitats during the wet season. This may result in a decline in overall biodiversity. Water quality impacts, resulting from spills, leaks, dust or dirty storm water, will result in the loss of taxa that may be sensitive to water quality. In addition, altered hydrology, in terms of timing, duration and quantity of water will affect habitat availability. Reduced flows or shorter periods of inundation may reduce both the availability and suitability of habitats and will have an impact on aquatic fauna.									important function of the wetlands on site.											
Issues related to RADIATION																				
Impact on public safety as a result of exposure to radioactivity.	Radioactive elements	10	4	2	5	80	-	H	Develop a Radiation Management Plan.	6	4	1	4	44	-	M	Implement the Radiation Management Plan throughout the life of mine and monitor exposure of the public to radioactivity in accordance therewith.	Ongoing	Environmental control officer/Health & Safety officer	Included in Construction and Operational Costs

7 MONITORING MANAGEMENT PROGRAMME

This chapter of the EIA/EMP report relates to the following sections of the MPRDA and Regulation 527 (GNR 527) of 23 April 2004 promulgated in terms of the MPRDA:

Sections 50(h) and 51(b) of the MPRDR, 2004 under the MPRDA, 2002 requires that an environmental monitoring programme must be developed for a mining operation. The monitoring programme developed for Wits Gold is explained below.

The draft monitoring programme developed for Wits Gold is explained herewith.

The key to the success of environmental management lies in the effective implementation of the proposed mitigation and management measures. Monitoring provides qualitative and quantitative information pertaining to the possible impacts of the development on the environment, and enables the measurement of the effectiveness of environmental management measures.

In order for Wits Gold to comply with the requirements of Regulation 51(b) of the MPRDA, monitoring programmes have to be developed for the different components of the environment that will be impacted on by the proposed mining and related activities. These monitoring programmes are a requirement of Section 24Q of the National Environmental Management Amendment Act 2008, (Act 26 of 2008) and also have to comply with the requirements of the NEMA and associated Regulations promulgated there under.

This draft monitoring programme will allow the proposed mine to monitor its compliance with the approved EMP for the proposed mining and related activities.

The draft monitoring programme will incorporate monitoring of the following environmental components:

- Hydrological (Surface water);
- Geohydrological (Groundwater);
- Biomonitoring;
- Air quality; and
- Radiation.

Further to the environmental monitoring that is required. Wits Gold will have to ensure that the proposed monitoring actions specified in the table that follows are implemented from the initiation of the project until decommissioning/closure.

Table7-1: Proposed monitoring actions and responsibilities

RESPONSIBILITY	MONITORING ACTIONS
Daily Inspection, Observations and Monitoring Activities	
Mining Personnel	General housekeeping. All waste to be deposited in demarcated bins.
	Daily inspection of surface area.
	All maintenance/fitting activities to be conducted on concreted areas.
	Activate dust suppression system on non rainy days immediately prior to the use of the roads by the haul truck.
Grade C and higher	Undertake workplace observations in all areas of the operation and document findings accordingly.
Selected representative	Any water leaks identified must be reported and leaks fixed immediately.
Environmental Officer	Daily monitoring for leakage should be undertaken.
All personnel	Notify environmental department of any hydrocarbon spills immediately (regardless of size). All hydrocarbon spills must be cleaned up immediately.
Weekly Inspection, Observations and Monitoring Activities	
Selected representative	Designated person to monitor amount of waste in waste receptacles. Should the receptacles be approaching full, measures must be implemented to empty receptacle and remove the waste from site.
Monthly Inspection, Observations and Monitoring Activities	
Environmental Officer	Monthly monitoring of water quality within adjacent pans.
	Water quality sampling will be undertaken on a monthly basis and analysed according to the monitoring programme.
	Quarterly surface and groundwater monitoring reports will be generated by the mine or through a water quality specialist
	Long term bi-annual biomonitoring programme, should be implemented.
	Regular monitoring to ensure successful establishment of indigenous vegetation and removal of alien and weedy species should be undertaken for 2 full growing seasons.
	Review and update water balance diagram.
	Update waste itinerary spreadsheet.
	Compare monthly water consumption rates with previous months.
	Investigate reasons for variations, if necessary, and take the appropriate action.
	Compare monthly power consumption rates with previous months.
	Monitor the storm water control measures (trench and berm) along the perimeter of the plant area. If they are becoming eroded or not functioning correctly, the necessary maintenance work must be conducted.
Annual Inspection, Observations and Monitoring Activities	

RESPONSIBILITY	MONITORING ACTIONS
Mine manager and environmental manager	Confirm the validity of all permits/registrations/licences which include, but are not limited to the renewal of all permits/registrations/licences that will expire within the coming year.
Environmental Officer	Check sewage system.
Environmental Officer	Check waste management system and wear and tear on waste receptacles.
Post Closure Inspection, Observations and Monitoring Activities	
Mine manager and environmental manager	Regular monitoring of adjacent water resources post-closure as per the recommendations in the aquatic ecology specialist reports should be undertaken.
Mine manager and environmental manager	Water quality monitoring as well as biomonitoring should also continue well beyond closure to ensure that rehabilitation and remediation measures have been effective.

7.1 Geohydrological and Hydrological Monitoring Requirements

The objectives of the geohydrological monitoring programme is to ensure that the water management systems perform according to specifications, to act as an early warning system, to check compliance with license requirements and for reporting purposes. The objectives of these systems will be achieved if there is no impact (attributable to the mine) on the in-stream and downstream fitness for use criteria.

The monitoring programme will assists with overall water management at the site, including but not limited to:

- Prevent pollution and thereby protect the receiving water environment;
- Develop an understanding of the current pollution on the mine and monitor how it changes over time; and
- Assess performance of pollution prevention measures, i.e. compliance with license conditions and catchment objectives.

Reporting

Reporting on surface and groundwater quality and quantity conditions will be included in the quarterly reports for SOFS Mining Operation an annual report will be submitted to the relevant authorities.

The quarterly report will be an update of the database with time-series graphs, statistical analysis (average, maximum, minimum, 5, 50 and 95 percentile values as well as linear

performance). Laboratory results will be analysed against the target water quality guidelines for domestic use, livestock watering and irrigation (according to the South African Water Quality Guidelines, 1996: DWAF). The strictest value between the target water quality objectives or objectives through a reserve determination will be used.
In terms of flow, all water uses and discharges will be measured on an ongoing basis. The flows include:

- Make-up water;
- Volumes of groundwater pumped out for mine dewatering purposes;
- Volumes of water pumped from the plant as part of slimes;
- Volumes of contaminated water that is recovered and used in the plant or for dust suppression; and
- Volumes of water in terms of the internal water flow processes.

An annual detailed water quality audit report on the surface and groundwater quality will be prepared that will analyse the water quality situation in detail to investigate trends and non-compliance. The report will be submitted to the relevant authorities as required by license conditions. Should the monitoring data indicate that the groundwater conditions are adversely affected, additional studies will be undertaken if it is deemed necessary.

Data Management

Monitoring results would be entered into an electronic database as soon as results are available, and at no less than one monthly interval, allowing:

- Data presentation in tabular format;
- Time-series graphs with comparison abilities;
- Statistical analysis (minimum, maximum, average, percentile values) in tabular format;
- Graphical presentation of statistics;
- Linear trend determination;
- Performance analysis in tabular format;
- Presentation of data, statistics and performance on diagrams and maps; and
- Comparison and compliance to South African Water Quality Guidelines and any other given objectives.

As far as possible, the same monitoring points will be used from the construction phase through the operational and decommissioning phases to after mine closure to develop a long term data record and enable trend analysis and recognition of progressive impacts with time.

7.1.1 Hydrological (Surface Water) Monitoring

It is recommended that monthly surface water samples be taken and analysed upstream and downstream of the Mine in the Merriespruit, if water is available to be sampled. The mine should also sample any discharges that may happen as well as effluents from its water treatment plants.

It is recommended that samples be tested for at least all of the elements as contained in the tests done for the baseline samples as per Section 4.8. In particular, it is recommended that lead and arsenic be monitored since the levels in the baseline water quality analyses were considered cause for concern. It is important for the mine to be able to show that it does not contribute in any way to any pollution of surface water resources.

Wits Gold will adopt a no-discharge policy, which will ensure that all dirty water on the mine property will remain within the mining area. Due to the Company's commitment on not polluting the surrounding water in the area, the mine will reuse dirty water contained within the dirty water systems (i.e. PCDs).

In order for the monitoring programme to be effectively implemented it is necessary to gather data related to the surface water component of the environment associated with the SOFS Mining Operation. Correct and sustained sampling performed at the correct times and intervals form the foundation for any monitoring programme. Sampling of the surface water resources (quality and quantity), including levels of PCDs, is the direct responsibility of Wits Gold. Any deviations from the monitoring protocol must be recorded and reported.

Table 7-2 and

Table 7-3 detail the surface water monitoring plan and monitoring parameters respectively.

Table 7-2: Surface Water Monitoring Plan.

WATER TYPE	DETAILS	MONITORING FREQUENCY
Process Water	Dirty water dams, etc	Monthly
Surface Water	Up- and down-gradient samples of all rivers in the vicinity of mining operations. As well as any springs, pans and natural dams	Monthly
Drinking Water	Any water supply used for domestic purposes should be monitored for all SANS parameters, especially bacteria, such as total and faecal coliforms.	Monthly

Table 7-3: Surface Water Monitoring Parameters

CONSTITUENT	CLASS 0 (IDEAL)	CLASS I (ACCEPTABLE)	CLASS II (MAX. ALLOWABLE)	CLASS III (EXCEEDING)
pH Value @ 20°C	6.0-9.0	5-6 or 9.0-9.5	4-5 or 9.5-10	<4 or >10
Conductivity mS/m @ 25°C	<70	70-150	>150-370	>370
Total Dissolved Solids	<450	450-1000	1000-2400	>2400
Calcium, Ca	<80	80-150	>150-300	>300
Calcium Hardness as $CaCO_3$	N/S	N/S	N/S	N/S
Magnesium, Mg	<30	30-70	>70-100	>100
Magnesium Hardness as $CaCO_3$	N/S	N/S	N/S	N/S
Total Hardness as $CaCO_3$*		100-200 (Fairly Hard)	200-300 (Hard)	>300 (Very Hard)
Sodium, Na	<100	100-200	200-400	>400
Potassium, K	<25	25-50	50-100	>100
Free and Saline Ammonia as NH_4	N/S	N/S	N/S	N/S
Total Alkalinity as $CaCO_3$	N/S	N/S	N/S	N/S
Bicarbonate, HCO_3	N/S	N/S	N/S	N/S
Carbonate, CO_3	N/S	N/S	N/S	N/S
Chloride, Cl	<100	100-200	>200-600	>600
Sulphate, SO_4	<200	200-400	>400-600	>600
Nitrate, NO_3	N/S	N/S	N/S	N/S
Nitrate as N	<6.0	6.0-10	>10-20	>20
Fluoride, F	<0.5	0.5-1	1-1.5	>1.5
Total Suspended Solids	N/S	N/S	N/S	N/S
Langelier Saturation Index (pH-pHs)	N/S	N/S	N/S	N/S
Sodium Absorption Ratio (SAR)	N/S	N/S	N/S	N/S
Aluminium, Al	<0.15	0.15-0.3	>0.3-0.58	>0.58
Manganese, Mn	<0.05	0.05-0.1	>0.1-1	>1
Iron, Fe	<0.01	0.01-0.2	>0.2-2	>2
Chromium, Cr	<0.01	0.01-0.1	0.1-0.5	>0.5
Phosphorus as P	N/S	N/S	N/S	N/S

Proposed water monitoring points are detailed in Table 7-4 and Figure 7-1

Table 7-4: Proposed surface water monitoring points

Surface Water Point	Co-ordinates	
	Latitude (S)	Longitude (E)
Q2	-28.1723	26.79552
P1	-28.1651	26.82967
P2	-28.1511	26.85106
M1	-28.1697	26.87721
W3	-28.1969	26.8556
Q1	-28.1969	26.8556
M2	-28.187	26.85884
W2	-28.1729	26.88824
W1	-28.1703	26.8971
P4	-28.136	26.86036
Q4	-28.146	26.91936
P3	-28.1763	26.92281
Q3	-28.1846	26.923

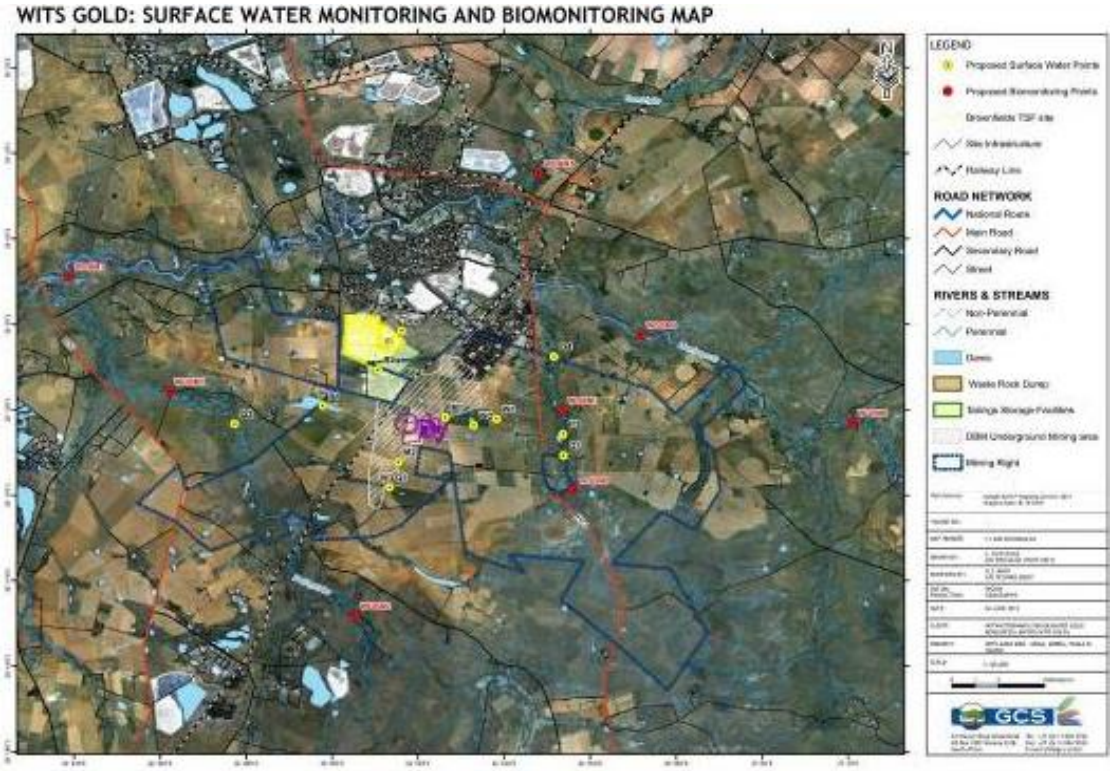

Figure 7-1: Proposed surface water monitoring points

7.1.2 Geohydrological Monitoring (Groundwater)

The objective of a groundwater monitoring program is to detect any changes that the mining activities may have on water quality and levels in the area. The area for groundwater

monitoring at SOFS Mining Operation is presented in Figure 7-2 and Table 7-5. The boreholes in the monitoring network should cover the following: contaminant sources, receptors and potential contaminant plumes. Furthermore monitoring of the background water quality and levels is also required.

Table 7-5: Proposed Groundwater monitoring points

Groundwater monitoring points	Co-ordinates	
	Latitude (S)	Longitude (E)
Am 10	-28.2117	26.86983
Am 4	-28.2013	26.87915
BH25H	-28.1112	26.90568
BH31H	-28.1206	26.83948
BH37H	-28.1726	26.90449
BH79H	-28.1165	26.91032
BH80H	-28.1302	26.92351
BH81H	-28.147	26.91465
BH82H	-28.158	26.90731
BH83H	-28.1181	26.90221
BH84H	-28.1877	26.84053
BH85H	-28.1158	26.83162
BH86H	-28.1166	26.83409
BH87H	-28.1077	26.81801
BH88H	-28.1647	26.85905
BH89H	-28.1647	26.85989
BH90H	-28.1666	26.85859
BH91H	-28.1586	26.86688
BH92H	-28.1713	26.86754
BH93H	-28.1824	26.85987
Bl 3	-28.1995	26.82352
Fl 1	-28.188	26.88103
Fl 2	-28.192	26.89983
GCS 1	-28.161	26.84149
GCS 2	-28.1633	26.85054
GCS 3	-28.1563	26.863
GCS 4	-28.168	26.86301
GCS 5	-28.1804	26.85857
GCS 6	-28.1465	26.83769
GCS 7	-28.1353	26.85949
Ha 1	-28.1511	26.8276
Ni 10	-28.1757	26.92478
Ply 3	-28.2161	26.84058
Ply 6	-28.2201	26.85267
We	-28.2139	26.8275
Wel 2	-28.1922	26.8137
Wel 4	-28.1875	26.80397

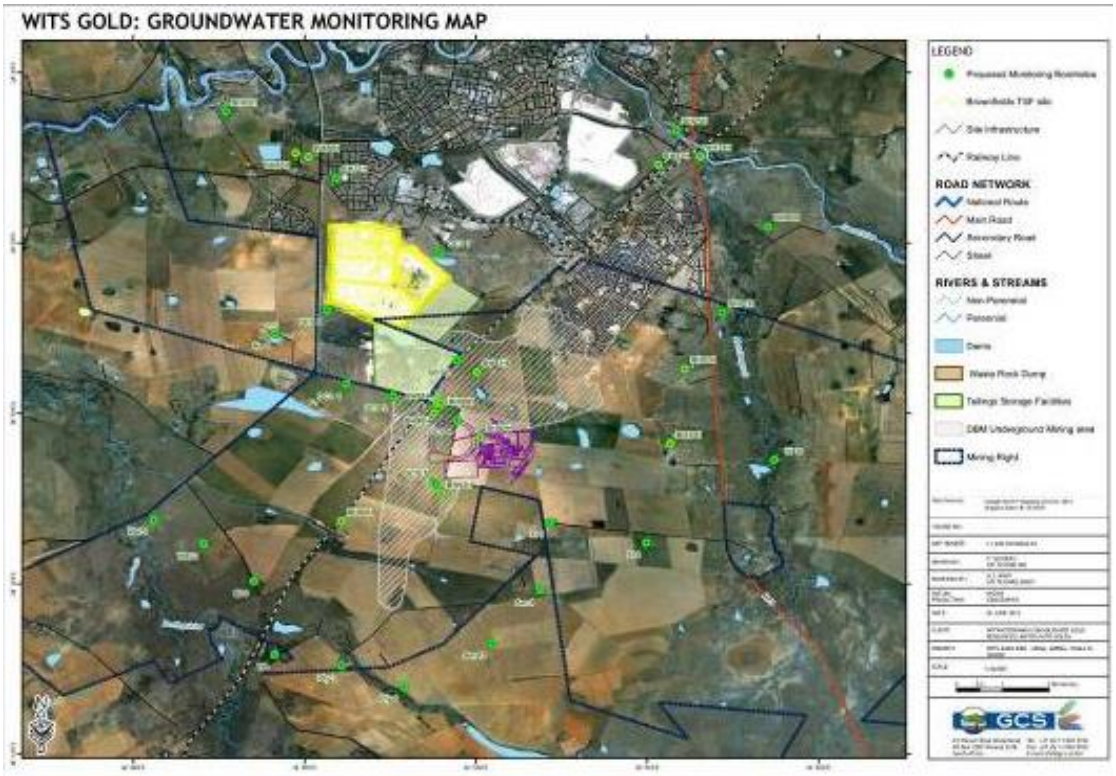

Figure 7-2: Proposed Groundwater monitoring points

The groundwater monitoring assessment should include the following:

- In addition to the monitoring boreholes that were drilled, it is suggested a minimum of two additional monitoring boreholes are drilled as indicated in Figure 7-2. The purpose of the boreholes will be to monitor potential plume migration.
- It is recommended that all monitoring boreholes be monitored on a quarterly basis. The schedule can be reviewed after a period of two years and maybe reduced to a biannual monitoring schedule – to accommodate dry and wet season monitoring at least. The quarterly chemical analyses must include: As, CN, EC, pH, SO4, Ca, Mg, Na, Cl, NO3, K, F, T-Alk, Fe, Al As and Cn.
- Cyanide (CN) monitoring should be conducted within the International Cyanide Management Code for the gold mining industry. All the cyanide species should be included in the groundwater monitoring program including free cyanide, total cyanide and Weak Acid Dissociable (WAD) Cyanide. Cyanide should be monitored in the groundwater surrounding the TSF and the processing plant where it is used and stored.
- It is recommended that the data is stored in a dedicated database and that quarterly and annual reports are generated for mine management.

Groundwater monitoring will be undertaken to SABS and DWA requirement according to the schedule provided in Table 7-6.

Table 7-6: Groundwater Monitoring Schedule

MONITORING POSITION	SAMPLING INTERVAL	ANALYSIS	WATER QUALITY STANDARDS
All monitoring boreholes	Monthly: measuring the depth of groundwater levels	N/A	N/A
All monitoring boreholes	Monthly: sampling for water quality analysis	• Full analysis in April and October, January and July • Groundwater levels	South African Water Quality Guidelines: Domestic Use, livestock watering
Rainfall	Daily at the mine	N/A	N/A

The identification of the monitoring parameters is crucial and depends on the chemistry of possible pollution sources. They comprise a set of physical and/or chemical parameters (e.g. groundwater levels and predetermined organic and inorganic chemical constituents). Once a pollution indicator has been identified it can be used as a substitute to full analysis and therefore save costs. The use of pollution indicators should be validated on a regular basis in the different sample position. The parameters should be revised after each sampling event; some metals may be added to the analyses during the operational phase, especially if the pH decreases.

The following parameters must be assessed:

- Physical Parameters:
    - Groundwater levels.
- Chemical Parameters:
    - Field measurements: pH, EC;
    - Laboratory analyses: Anions and cations (Ca, Mg, Na, K, NO3, Cl, SO4, F, Fe, Mn, Al, & Alkalinity) and other parameters (pH, EC, TDS);
    - Petroleum hydrocarbon contaminants (where applicable, near workshops and petroleum handling facilities); and
    - Sewage related contaminants (E.Coli, faecal coliforms) in borehole in proximity to septic tanks or sewage plants.

Laboratory analysis techniques will comply with the South African Bureau of Standards (SABS) guidelines. The groundwater monitoring database will be updated on a monthly basis as information becomes available. The database will be used to analyse the information and evaluate trends noted.

An annual compliance report will be compiled and submitted to the authorities for evaluation and comment. This report will be submitted annually for the construction, operational and decommissioning phases as well as for two years after mining ceases. The mine will develop a monitoring response protocol after the completion of the construction phase of the project. This protocol will describe procedures in the event that groundwater monitoring information indicates that action is required.

7.2 Dust Monitoring

A dust monitoring program has been underway at the site since November of 2011. Refer to the CD (Annexure K) for the copies of all the dust monitoring reports to date.

The location of the existing and proposed dust buckets is provided in Figure 7-3 and Figure 7-4, and **Table 7-7**.

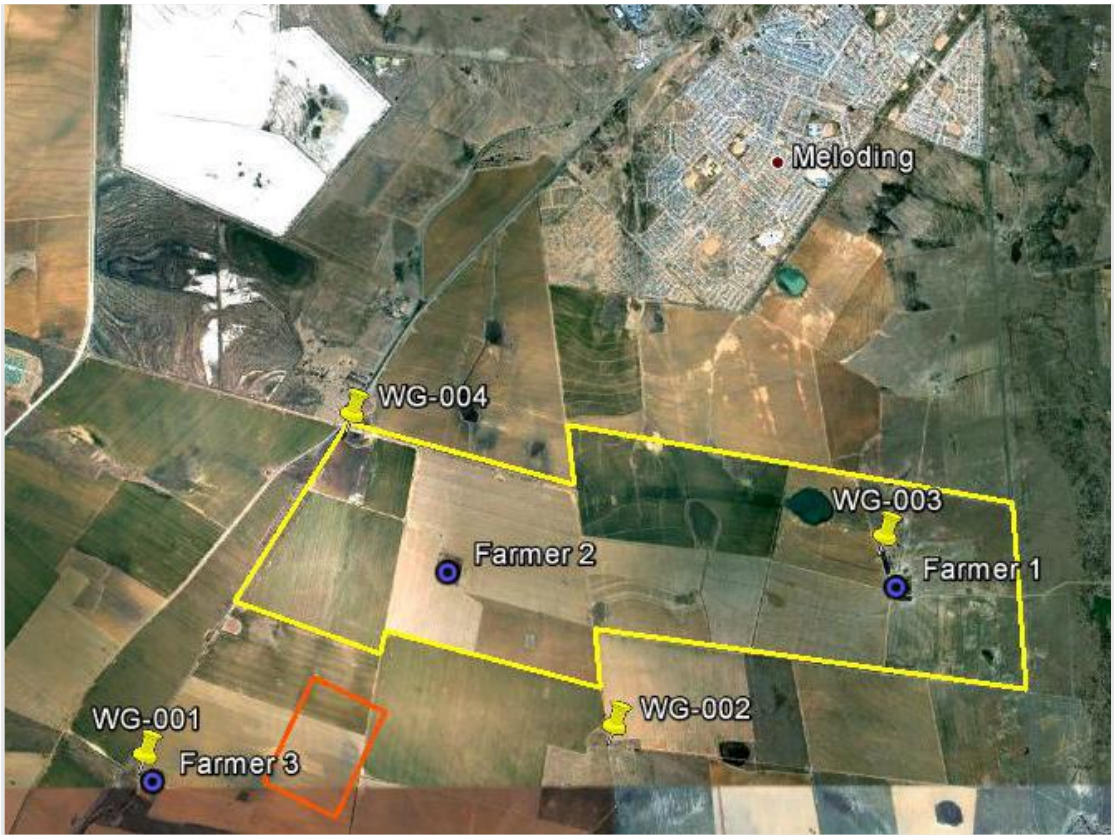

Figure 7-3: Location of existing dust bucket network for Wits Gold DBM (after Rayten, 2011)

Table 7-7: Existing and proposed Dust bucket locations

Dust Buckets	Co-ordinates	
	Latitude (S)	Longitude (E)
WG-001	-28.18923	26.83995
WG-002	-28.18701	26.87941
WG-003	-28.17634	26.90537
WG-004	-28.16616	26.85564
WG-005	-28.193116	26.97988
WG-006	-28.250223	26.93914
WG-007	-28.148056	26.84394
WG-008	-28.145261	26.85809
WG-009	-28.136457	26.83698
WG-010	-28.130329	26.85375

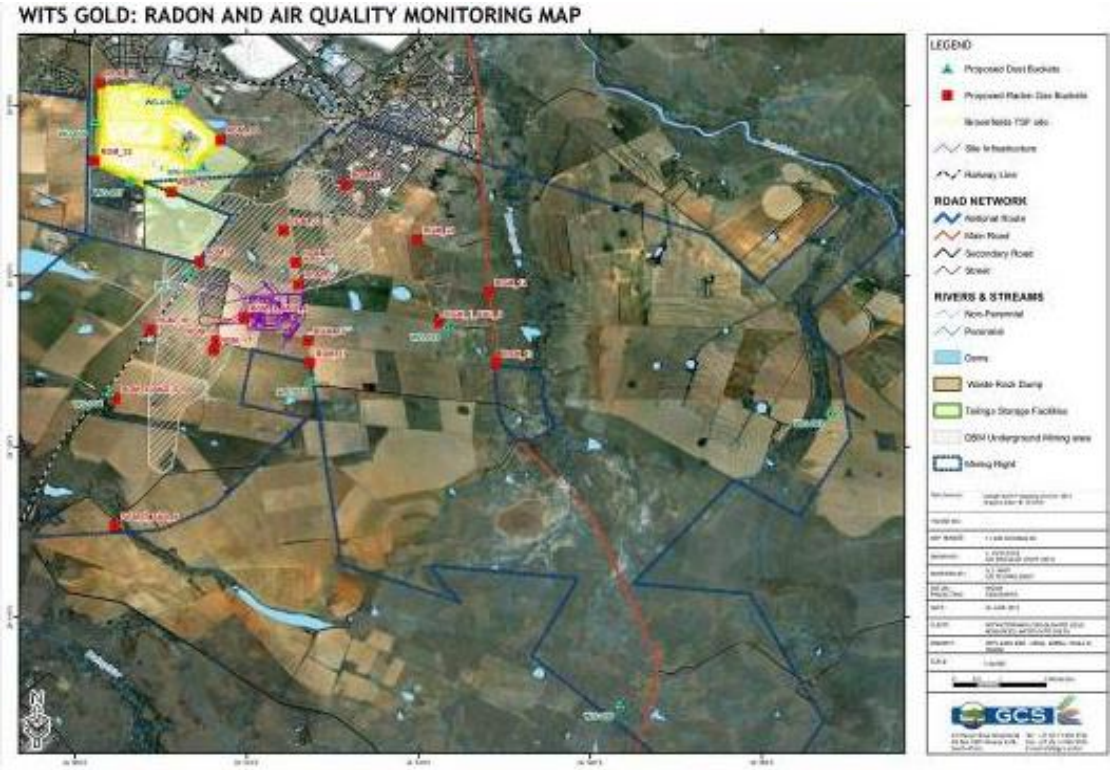

Figure 7-4: Dust and Radiation monitoring points

7.3 Aquatic Ecology (Bio-monitoring)

The bio-monitoring programme will include the following River Health Indices: Invertebrate Habitat Assessment System (IHAS) and the latest SASS (South African Scoring System). The bio-monitoring investigations will be undertaken bi-annually to establish the current status of the rivers and surrounding tributaries that transects the mining area.

In terms of site selection for bio-monitoring, the following river biotopes need to be present within a perennial river in order to be suitable for bio-monitoring:

- Stones biotope;
- Vegetation biotope; and
- Gravel, Sand and Mud (GSM) biotope.

Bio-monitoring is recommended to determine the impact of the mine on the natural environment. The baseline information of the aquatic health of the rivers will be used for comparison during the investigation and future bio-monitoring studies/surveys. The bio-monitoring investigation will fulfil several roles including:

1. Determine the Present Ecological State of the various affected river system/s;
2. Define areas of aquatic ecological sensitivity; and
3. Provide recommendations for the maintenance/improvement of the present ecological state of the river system.

7.3.1 Methodology

The fieldwork will be based on the following indices:

- Monitoring and assessing of freshwater macro-invertebrate communities, both diversity and abundance. Assessment will be based on the SASS5 index according to the protocol of Dickens & Graham (2001);
- Assessing the condition and availability of invertebrate habitats of the site being sampled according to the protocol of Kleynhans (1999). This assessment is referred to as the IHAS;
- In situ water quality parameters will be measured, i.e. pH, electrical conductivity, dissolved oxygen and temperature;
- Raw water will be collected from the monitoring sampling sites for Whole Effluent Toxicity (WET) testing; and
- Grab water samples of 2 litres will be collected at each sampling site. A grab sample represents a “snap shot view” of the effluent present at the sampling sites.

7.3.2 Lab Analysis

Concomitant laboratory screening toxicity tests will be conducted to determine any possible problems with the water samples. With the screening test the organisms are directly exposed to the effluent (100%) and to one dilution of the effluent (50%). At various times during the exposure period the response of the organisms in each test concentration will be observed and recorded and the number of responses in relation to the test concentrations analysed.

7.3.3 Bi-Annual Bio-monitoring Report

The bi-annual bio-monitoring reports will cover the following aspects:

- Baseline information;
- Fieldwork data analysis and interpretation;
- Comparative analysis of previous bio-monitoring data (if available); and
- Data interpretation of toxicity test analysis.

The proposed biomonitoring points are detailed in Figure 7-1 and Table 7-8.

Table 7-8: Proposed biomonitoring points

Biomonitoring Points	Co-ordinates	
	Latitude (S)	Longitude (E)
WGBM1	-28.1594	26.77006
WGBM2	-28.2468	26.84216
WGBM3	-28.1147	26.73124
WGBM4	-28.1374	26.95297
WGBM5	-28.0744	26.91329
WGBM6	-28.1716	27.03492
WGBM7	-28.1668	26.92271
WGBM8	-28.1982	26.9268

7.4 Radiation Monitoring

The proposed radon fallout points are detailed in Figure 7-4 and

Table 7-9. The current radon monitoring programme requires that the radon cups be removed/replaced on a quarterly basis. The removed cups are sent to the NECSA laboratory for assessment.

Table 7-9: Proposed Radon cup locations

Radon Cup points	Co-ordinates	
	Latitude (S)	Longitude (E)
RGM_1_AND_2	-28.1759	26.90403
RGM_3_AND_4	-28.1749	26.86616
RGM_5_AND_6	-28.1906	26.84116
RGM_7_AND_8	-28.2155	26.84105
RGM_9	-28.1638	26.85756
RGM_10	-28.1684	26.87672
RGM_11	-28.164	26.87619
RGM_12	-28.1698	26.91377
RGM_13	-28.1837	26.91506
RGM_14	-28.1793	26.87858
RGM_15	-28.1836	26.87895
RGM_16	-28.1794	26.8608
RGM_17	-28.1811	26.86029
RGM_18	-28.1771	26.84797
RGM_19	-28.1829	26.85463
RGM_20	-28.1854	26.86071
RGM_21	-28.1933	26.85652
RGM_22	-28.1907	26.8504
RGM_23	-28.1578	26.87376
RGM_24	-28.1596	26.89976
RGM_25	-28.1488	26.88583

7.5 Mine Environmental Audits

A register of environmental monitoring and auditing results will be available for inspection. This will also include compliance with environmental legislation.

In order to ensure compliance with the environmental management programme and to assess the continued appropriateness and adequacy of the environmental management programme, Wits Gold commits to:

- Conduct the monitoring on an ongoing basis;
- Conduct the performance assessments of the environmental management programme every two years or as agreed by the Minister in writing;
- Compile and submit a performance assessment report to the Director: Mineral Development of the environmental management programme; and
- The above will be undertaken according to the Regulations (No.26275) of the MPRDA.

The mine further undertakes to:

- Appoint a responsible person(s), in writing, who will monitor all environmental aspects of the site on a regular basis. A copy of this letter of appointment including the relevant emergency numbers will be supplied to the Regional Manager: Mineral Regulation of the DMR: Free State Region; and
- The appointed person will communicate, on a regular basis, with the local interested and affected parties identified with regards to the project and will report on the progress made with regards to implementation of the mitigation measures. Any complaints, with regards to the mining activity, will be reported to the appointed person and be recorded in the complaint register.

In addition the mine commits to compiling a report with regards to the following issues, which will be submitted to the DMR on a yearly basis:

- Quantities processed to be recorded on a monthly basis;
- Percentage of disturbed area rehabilitated (rehabilitation figures) – recorded on a three monthly basis. A six monthly report to be compiled;
- Water quality results;
- Water levels of identified boreholes; and
- A copy of the complaints register.

8 ENVIRONMENTAL EMERGENCY RESPONSE PLAN AND ENVIRONMENTAL AWARENESS PLAN

This chapter of the EIA/EMP Addendum Report relates to the following sections of the MPRDA and Regulation 527 (GNR 527) of 23 April 2004 promulgated in terms of the MPRDA:

In accordance with Regulation 51(b)(vi) of the MPRDA, 2004), an EA Plan is needed which states that an EMP3 contemplated in Section 39(1) of the MPRDA4, 2002 must include an EA Plan as contemplated in Section 39(3)(c) of the Act. According to Section 39(3)(c) of the MPRDA, 2002 (Act 28 of 2002), "an applicant who prepares an environmental management programme or an environmental management plan must develop an environmental awareness plan describing the manner in which the applicant intends to inform his or her employees of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment".

The purpose of this part of this EMP is to anticipate the occurrence of environmental crises, which may occur due to unforeseen circumstances. Since these events can never be predicted, a procedure has been prepared that must be followed in the event of such an incident, which will assist in the mitigation, remediation and conservation of the environment and contribute to the safety of workers and I&APs.

The Environmental Emergency Response Plan and Environmental Awareness Plan for the SOFS Mining Operation is attached as Appendix G.

9 FINANCIAL PROVISION

Financial provision for the environmental rehabilitation and closure requirements of mining operations forms an integral part of the MPRDA. Section 41 of the MPRDA and Regulations 53 and 54 promulgated in terms of the MPRDA deal with financial provision for mine rehabilitation and closure. The holder of a Mining Right, as described in the relevant sections of the MPRDA and its regulations, must provide the DMR with sufficient information pertaining to the necessary financial provision required to address closure and monitoring related environmental liability.

Wits Gold are required to develop a detailed closure cost assessment based on the DMR guideline document, Guideline Document for the Evaluation of the Quantum of Closure-Related Financial Provision Provided by a Mine, published in 2005. The guideline document provides a generic approach to the determination of the quantum for financial provision by the DMR. This approach (**Figure 9-1**) aims to avoid a situation of applying non-aligned empirical approaches and interpretations between DMR regional offices.

The detailed Closure Cost Determination for the SOFS Mining Operation is attached as Appendix H.

The closure cost estimate (clean closure) was determined for the SOFS Mining Operation in accordance with the DMR guidelines and based on a CPIX increase and actual contractor rates. The closure costs are as follows:

Sub-Total 1:	R 18 399 044.12 (excluding VAT)
Sub-Total 2:	R 22 410 035.74 (excluding VAT)
Sub-Total 3:	R 25 547 440.74 (including VAT)

In accordance with the DMR guidelines, the closure costs (clean closure) include the following:

- Preliminary and General (P&G)
  - 6% if Subtotal 1 is greater than R 100 million; and
  - 12% if Subtotal 1 is less than R 100 million (not applicable).
- 10% Contingency; and
- 14% Vat.

The existing rehabilitation liabilities associated with the Brownfields TSF site will be taken over by the applicant, if agreement to make use of this site is reached. This will only be

undertaken after a full assessment of the current rehabilitation liabilities pertaining to the Brownfields TSF site has been undertaken by an independent assessor and a full reconciliation of the fund completed.

The Financial Provisioning Has been updated to include the SOFS DBM Project Extension Activities.

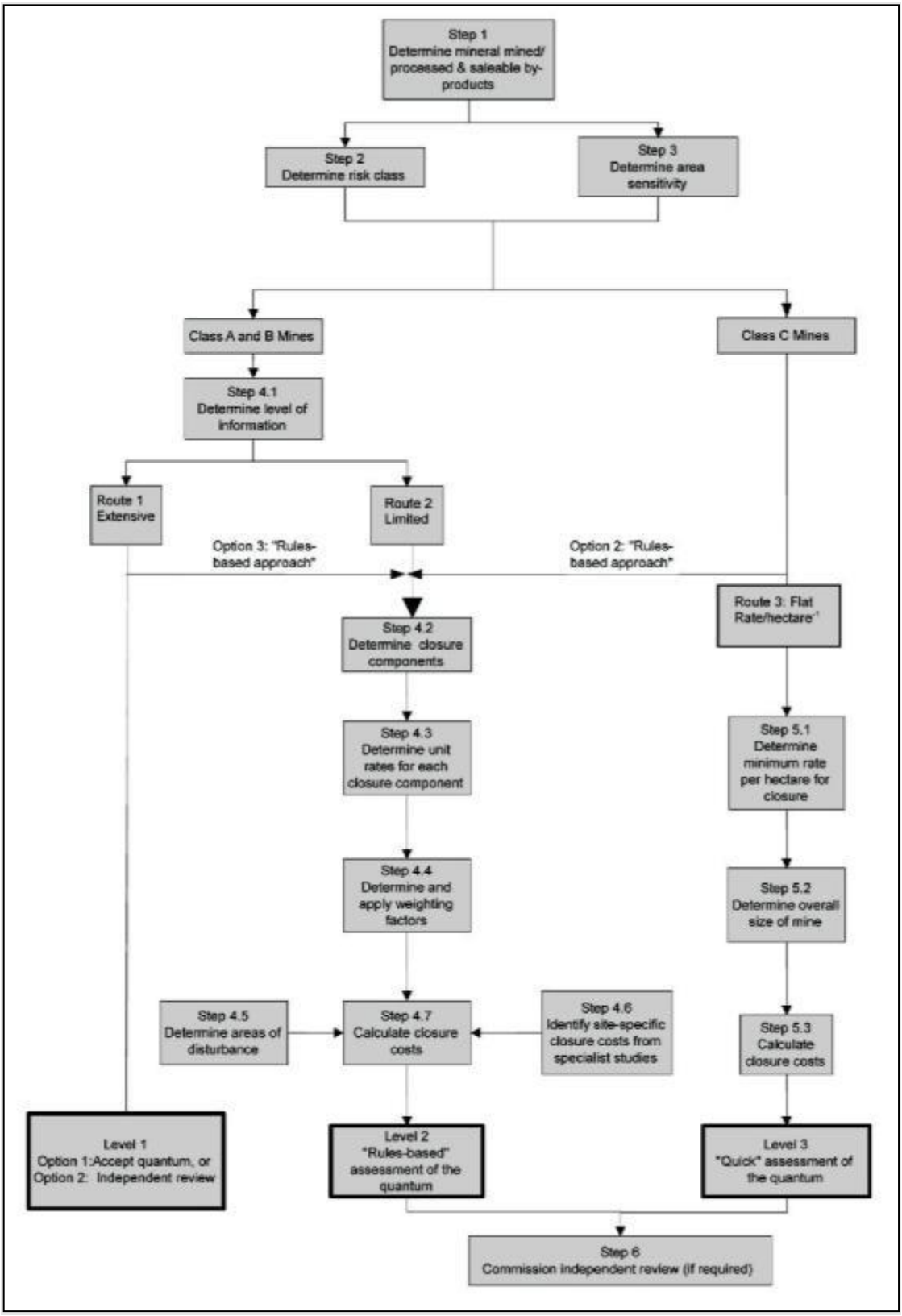

Figure 9-1: Proposed Methodology for Determining the Closure-Related Financial Provision for the SOFS (Phase 1) DBM Mine.

10 ENVIRONMENTAL REHABILITATION PROGRAMME

The overall land use vision for the proposed SOFS area is to ensure the operations are safe, stable and non-polluting over the long-term in order to be integrated into the current agricultural, eco-tourism and economic activities of the area in which the mine will be located.

10.1 Aim of Rehabilitation Plan

The aim of the rehabilitation plan is to:

- Return the disturbed areas to an acceptable post mining state;
- Ensure all areas are stable, and there is not risk of erosion;
- Prevent alien plant invasion on the site until the site is in a stable state; and
- Ensure that all areas are free-draining and non-polluting.

The general project area includes areas of commercially cultivated land. The continuous rehabilitation program will attempt to restore the area to an acceptable standard as close to its baseline environmental state as possible.

10.2 Rehabilitation Objectives

The overall rehabilitation objectives for SOFS (Phase 1) DBM Mine are the following:

- Visual impacts of rehabilitated areas should be minimised by recreating natural landforms and ensuring that reshaped areas are visually suited to surrounding landscapes;
- Natural landforms such as drainage lines, undulating areas and ridges, which have been damaged during activities, must be restored;
- Soil integrity is the most important aspect of rehabilitation as it forms the base from which rehabilitation proceeds. If soils are not correctly prepared, suitable conditions for re-vegetation will not be achieved;
- Alien floral invasion poses a threat both during and post-rehabilitation activities. Adequate alien and invasive species control measures will contribute towards an effective rehabilitation effort; and
- Infrastructure will be removed and the area restored to as much of the natural state it was before the construction phase.

The closure involves the rehabilitation of all areas disturbed as a result of the operations during all of the project phases.

The minimum objectives for the closure and rehabilitation of the TSF must be to prevent air and water pollution in accordance with the requirements of the relevant regulations and with good international practice. The intended end-use should take into consideration the prior land-use and the location with respect to current and potential future socio-economic development.

The closure plan for the TSF will be developed during the life of the facility. The purpose of preparing a closure plan is to ensure that the design, construction and operation procedures are compatible with the achievement of final closure and rehabilitation to acceptable environmental standards and at a reasonable cost. It is anticipated that the closure plan will be updated periodically before the preparation of the final closure plan. The closure plan will be prepared in accordance with "best practice" and the requirements of the environment.

In view of the above, the principles of the closure considerations can be summarised as follows:

- The segregated tailings materials are expected to have a low permeability with the result that seepage from rainwater infiltration will be very limited.
- The required final side slope and top surface geometries will be achieved during the operation phase. The top surfaces will either be divided into smaller compartments and/or the water will be allowed to drain in a controlled fashion to the historical pool areas from where the runoff will be allowed to evaporate.
- The side slopes will be vegetated. The top surfaces will be covered with a vegetated engineered layer (waste rock and topsoil). The purpose of the covers is to stabilise the tailings surfaces (erosion and dust generation) and to minimize the infiltration of water and oxygen.
- The floating penstocks will be sealed.
- Emergency spillways will be included in the final closure design.
- The water storage dams will remain in place.
- Generally all surface structures (i.e. pumps, pump stations, pipelines, power lines etc.) will be removed.

10.3 Management Criteria for the Rehabilitation of Land

The following management measures are required:

- The area will be fenced, and all animals i.e. cattle, kept off the area until the vegetation is self sustaining;
- Newly seeded/planted areas will be protected against compaction and erosion;
- Traffic will be limited until vegetation is self-sustaining;
- Vegetation will be watered, if required, and weeded at least once in six months;
- Ongoing monitoring for pests and diseases will be undertaken at least once in six months and vegetation will be treated in accordance with identified accepted procedures if necessary;
- Unhealthy or dead plant material will be removed and replaced if necessary;
- A general application of potassium, nitrate and phosphorous fertilizer should be applied, where self succession does not establish within 18 months. Small quantities should be applied at regular intervals (to be determined at rehabilitation onset) across the site so as not to affect the surface and groundwater environments;
- Any damage caused by erosion will be rehabilitated and the necessary erosion control measures will be maintained; and
- Annual inspections of rehabilitated areas will be undertaken for the first three (3) years after rehabilitation or until such time that the areas are self-sustaining.

The final plans for active rehabilitation of the shafts (vertical incline and ventilation) as well as the Brownfields TSF facility have not yet been finalised. The final placement and approach to rehabilitation will be determined during the Bankable Feasibility Study (BFS) for the proposed operation, due for completion in July 2013. It is anticipated that, as a minimum, the shaft area will require fencing around the shafts and capping to make them safe. With regard to the Brownfields TSF site it is anticipated that the slopes will have to be shaped and sloped and vegetation cover established to be self-sustaining. In addition a detailed stormwater management plan will have to be developed for the Brownfields TSF site post operation.

10.3.1 Removal of Infrastructure

Following cessation of mining and processing, it is planned that all infrastructures will be decommissioned and removed from site in a systematic and regulated manner. The following activities will be conducted during the decommissioning and closure phase of the project:

Buildings

- All infrastructure will be removed and rehabilitated, should no alternative use be found for the structures;
- Foundations will be removed to a depth of 1 m below surface;
- An alternative use for the brick structures will first be sought, i.e. they can either be sold/donated to the post-mining landowner on sale of the land. If an alternative use cannot be found, the buildings will be demolished; and
- All material recovered from the demolition of buildings and/or structures will either be transported to a permitted disposal site, sold as scrap or made available to the local community as building materials (provided they are in a satisfactory condition following demolition).

Linear Infrastructure

- Linear infrastructure constructed by the mine (i.e. roads, conveyors and power lines) will be removed if it proves to inhibit land use at decommissioning. Where possible infrastructure will remain for future mining operations as determined by Wits Gold or for social investment opportunities, this will be decided in conjunction with the IDP of the area and the local authorities (i.e. municipality);
- The soils and land capability will be rehabilitated to near pre-mining conditions;
- All roads will be rehabilitated by ripping these structures to a depth of 500 mm; and
- All fences erected around the mine and linear infrastructure will be dismantled and either disposed of at a permitted disposal site or sold as scrap (provided these structures will no longer be required by the post-mining land owner). Fences erected to cordon-off dangerous excavations will remain in place and will be maintained as and when required.

Pollution Control Dams

- All PCDs will be maintained to ensure that no leakages occur;
- Overflow pipes will be kept clean;
- Sumps will be kept clean and all pumps will be maintained; and
- The PCDs will only be demolished should the area prove to be free draining with no pollution potential after rehabilitation.

10.3.2 Active Rehabilitation - Landscaping

Landscaping activities will involve the active rehabilitation of the area with the following activities taking place:

- Recovery of all saleable infrastructure;

- Demolition and removal of all buildings and structures;
- Ripping of all compacted areas, which will be followed with amelioration and vegetation;
- Ensure that all remaining piles and slopes are sufficiently shaped to blend in with the surrounding environment;
- Amelioration and vegetation of all disturbed areas;
- Maintenance of all re-vegetated areas up until such areas initiate succession and create a sustainable cover;
- Monitoring of key environmental variables (i.e. soils, vegetation, groundwater and surface water) in order to demonstrate stability of rehabilitated areas; and
- Weed management after closure, limited to areas disturbed by mining or included as infrastructure related to the mine.

The final plans for active rehabilitation of the shafts (vertical incline and ventilation) as well as the Brownfields TSF facility have not yet been finalised. The final placement and approach to rehabilitation will be determined during the Bankable Feasibility Study (BFS) for the proposed operation, due for completion in July 2013. It is anticipated that, as a minimum, the shaft area will require fencing around the shafts and capping to make them safe. With regard to the Brownfields TSF site it is anticipated that the slopes will have to be shaped and sloped and vegetation cover established to be self-sustaining. In addition a detailed stormwater management plan will have to be developed for the Brownfields TSF site post operation.

10.3.3 Infrastructure Removal and Rehabilitation

Rehabilitation of all disturbed land surfaces will include the following and will be completed within a period as specified in the appropriate closure document:

- Photographs of the infrastructure, before, during and after rehabilitation will be taken at selected fixed points and kept on record for the Environmental Coordinator and the DMR purpose;
- All vehicles, treatment plants and workshop equipment will be removed for salvage or resale;
- All fixed assets that can be profitably removed will be removed for salvage or resale;
- Any item that has no salvage value to the mine but could be of value to individuals will be treated as waste;
- All structures will be demolished, terracing removed and foundations demolished to –500 mm below the original ground level;
- Dismantle and remove redundant fencing for salvage;

- Demolish all concrete fence foundations to 500 mm below the original ground level;
- All services like the water supply line and the power line will be demolished only for the section on the mine's property; and
- The contractor laydown area will be demolished and rehabilitated.

10.3.4 Rehabilitation of Surfaces

Rehabilitation of all disturbed surfaces will include the following and will be completed within a period as specified in the appropriate closure document:

- Where sites have been denuded of vegetation or where soils have been compacted or covered with concrete, these sites will be ripped and ploughed. The topsoil shall be appropriately fertilized to allow vegetation to grow rapidly;
- All disturbed and exposed surfaces will be covered with at least 0.15 m of topsoil and re-vegetation must be allowed to take place naturally;
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the soil will need to be analysed and any deleterious effects must be corrected and the area be seeded with a seed mix to specification;
- Appropriate erosion control measures (i.e. contour banks) must be taken when required; and
- All illegal invader plants and weeds shall be dealt with as required in terms of the relevant legislation.

10.3.5 Disposal of material

The disposal of material will include the following and will be completed within a period as specified in the appropriate closure document:

- No building rubble or any other types of waste shall be dumped in the surrounding environment. In cases where it has already happened the sites shall be cleaned up and the waste and/or rubble removed to appropriate sites in consultation with the Environmental Coordinator;
- All types of waste shall be removed entirely from the area and appropriately dealt with in respect of the general waste handling procedure;
- All foreign matter shall be removed from the site;
- Inert ceramics such as bricks, concrete, gravel etc. will be used as backfill or disposed of in a licensed waste disposal site;
- Inert waste, which is more than 500 mm underground, such as pipes will be left in place; and

- Inert ceramic and buried waste with a salvage value to individuals such as scrap metal, building materials, etc. will be removed and disposed of at a licensed facility.

10.3.6 Water Pollution Control Structures

Water pollution control structures will remain until the completion of all demolition and associated rehabilitation activities where after these will be rehabilitated.

10.3.7 Maintenance

The aim of the maintenance measures are to ensure that the area affected by the mining operations is rehabilitated according to the closure plan and to apply for closure. The objective is for the area to be rehabilitated sustainability, ensuring self-succession of plants and the associated return of natural wildlife; as well as the improvement of the natural watercourses and groundwater systems.

The following maintenance measures will be implemented as part of the post-closure process:

- All natural physical, chemical and biological processes for which a closure condition has been specified must be monitored for three (3) years after closure or as long as deemed necessary at the time. Such processes include erosion of the rehabilitated surfaces, surface water drainage, surface water quality, groundwater quality, vegetative re-growth, weed encroachment and colonization by animals;
- Measures must be implemented to curb environmental impacts and to ensure that they do not worsen/cumulate over time;
- The closure plan will be reviewed every three (3) years; and
- All rehabilitated areas will be monitored and maintained until such time as required to enable the mine to apply for closure of these different areas.

The following activities will be included during the maintenance phase:

- The closure costs (demolition, removal, re-shaping and rehabilitation quotes per key quantity) for each facility must be included in the database so that the total closure cost can be determined;
- All facilities that become redundant during the life of mine must be rehabilitated concurrently to lighten the rehabilitation process at the end of the mine's life;
- Attention must be paid to the latest developments in mine rehabilitation sciences;
- Rehabilitation should be done as soon as possible, to ensure that the rehabilitation work required is kept to a minimum at the end of the life of the mine;
- Ensure that the area is free draining;

- Ensure that self-succession has been attained;
- Ensure that all slopes are safe in the long term;
- Submission of closure report and application for closure to the authorities; and
- Environmental monitoring and maintenance for three years after closure.

10.4 Submission of Information

The following applies to the submission of information:

- All procedures (emergency, environmental awareness, rehabilitation strategies, etc.) must be included into the mine's Environmental Management System (EMS). The mine's EMS will monitor and assess the performance of the EMP on an ongoing basis. Formal audit of the performance assessment of the EMP will take place every year as stipulated by law, or at any other period if required by government;
- All information as required by the various government departments should be captured and be readily available for submission when required;
- An annual Performance Assessment Report (PAR) will be submitted to the DMR;
- Groundwater monitoring occurs on a quarterly basis and is undertaken by outsourced specialists. Annual groundwater reports will be submitted to the DWA;
- The groundwater levels will be monitored on a quarterly basis and will be presented in the form of piezometric maps, from which changes can be determined through time. Annual groundwater reports will be submitted to the DWA;
- Surface water monitoring will be undertaken monthly and annually reports will be submitted to the DWA together with the groundwater reports;
- The financial provision for closure (quantum and method) will be updated annually as part of the Environmental Programme Performance Assessment; and
- The closure plan must be reviewed every three (3) years, and must always keep pace with the current best practices.

10.5 Rehabilitation

The final rehabilitation plan and the phases applicable thereto will be developed during the BFS. Only once the BFS is complete can the final rehabilitation plan be detailed.

It is proposed, however, that all proposed rehabilitation be undertaken in accordance with the relevant legislative requirements of the Republic of South Africa as well as in accordance with Best Practise Guidelines for rehabilitation. As a starting point for the rehabilitation it is proposed that the following three (3) phases be assessed and implemented:

10.5.1 Phase 1

Phase 1 of the rehabilitation plan will involve the dismantling and removal of the following infrastructure:

- Administration buildings, workshops, change houses, related buildings and ancillary infrastructure;
- Plants;
- Conveyor and related infrastructure;
- Power line; and
- Access roads.

PCDs and silt traps must be left with the clean and dirty water system through to Phase 2 and 3.

10.5.2 Phase 2

Phase 2 of the rehabilitation plan will involve the active rehabilitation of compacted areas.

Landscaping of the surface infrastructure area where the mining activities took place. The area has been cleared of infrastructure, now all soft berm, waste rock berms and the top soil stockpiles will be used to fill the access to the underground mining area.

Where sites have been denuded of vegetation or where soils have been compacted or covered, these sites will be ripped and ploughed. The topsoil shall be appropriately fertilized to allow vegetation to grow rapidly. If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the soil will be analysed and any deleterious effects must be corrected and the area be seeded with a seed mix to specification.

All stockpiles on the mine property will be removed. All residual material will be removed from the footprint area. The surface areas will be rehabilitated by ripping these areas to a depth of 500 mm. The area will be shaped to be free draining.

Culverts will be maintained and be kept clean to ensure that no obstructions occur should a 1:100 year flood occur. The culverts will only be demolished should the area prove to be free draining with no pollution potential after rehabilitation.

All pollution control dams will be maintained to ensure that no leakages occur. Overflow pipes will be kept clean. Sumps will be kept clean and all pumps will be maintained. The dams will only be demolished should the area prove to be free draining with no pollution potential after rehabilitation.

10.5.3 Phase 3

Phase 3 of the rehabilitation plan will involve the following activities:

- Two to three years of maintenance and aftercare; and
- Removal of boundary fencing once the site is sustainable and in a stable state.

10.6 Rehabilitation Responsibilities

Table 10-1 indicates the various responsibilities and responsible parties for the rehabilitation activities.

Table 10-1: Responsibilities and Responsible Parties for Rehabilitation Activities

RESPONSIBLE PARTY	RESPONSIBILITY
Environmental Manager	Planning of rehabilitation projects Initiating rehabilitation projects Compilation of closure plans with regard to rehabilitation areas/sites
Environmental Coordinator	General monitoring/surveillance and reporting and coordination Implementation/coordination with regard to particular environmental measure/action plans Audits (Closure Costs, Environmental, EMP Performance Assessment Reports, etc.) and surveillance
General Manager	Authorisation of all rehabilitation projects

11 IDENTIFICATION OF GAPS

11.1 General

Information contained in this EIA/EMP Report is based on technical information received from the Applicant, as well as the outcomes of the Specialist Studies undertaken. The Specialist Studies undertaken were conducted on the basis of the information available at the time. The Specialist Studies undertaken only took into account the area identified for infrastructure placement (**Figure 2-2**). The actual infrastructure placement is not envisaged to take up the entire identified area, and the footprint may require a much smaller area when finalised.

The option to switch from a Greenfields TSF option to that of a Brownfields TSF option occurred after the majority of the studies had been completed. A change in the assessment criteria would have resulted in additional cost time being required for the Specialists to address these changes. Due to the nature of this project and the fact that the identified impacts associated with the Greenfields TSF would be less significant than that of the Brownfields TSF, it was determined by the client in agreement with the EAP that sufficient information regarding the Brownfields TSF site is available. The monitoring programme as presented in the EMP has to be implemented to determine whether this assumption proves to be correct, if not, detailed studies will have to be initiated.

11.2 Specialist Studies

11.2.1 Geohydrological (Groundwater) Assessment

Groundwater levels in the Witwatersrand Supergroup aquifer are currently unknown. Monitoring boreholes (deep core boreholes) should be drilled and equipped with pressure gauges. Infill drilling/exploration boreholes may be used for this purpose. Regular pressure readings must be taken to monitor changes in the groundwater table. If possible, these boreholes should be placed throughout the mine to assess the regional groundwater table. It is initially envisaged that 4 boreholes be drilled to mining depth. Deep boreholes must be drilled in strategic areas such as the shaft or decline area, into the De Bron Fault and proposed underground workings. Flow logging should also be performed on the newly drilled boreholes. The purpose of performing flow logging is to determine aquifer parameters (T-values), identify preferential flow paths and depth of major water strikes that are intersected. Testing of boreholes sections must take place as drilling proceeds, prior to casing installation and/or grouting. Once all the data has been collected, the site conceptual model

should be verified and updated using the new information. The numerical groundwater model should then also be update with the newly collected data.

11.2.2 Visual Impact Assessment

No visual impact assessment and modeling has been undertaken to date as infrastructure placement has not yet been finalized. As such the visual impact assessment can only be undertaken once the exact location of the project related infrastructure has been confirmed.

To evaluate the impacts of the proposed activity, the inherent scenic value of the landscape first needs to be determined. Data collected during a site visit would allow for a comprehensive description and valuation of the receiving environment. The following method should be used for the project:

- Site visit - one field survey should be undertaken and the study area scrutinized to the extent that the receiving environment can be documented and adequately described;
- Project components - the physical characteristics of the project components must described and illustrated;
- Determine the setting, visual character and land use of the area surrounding the proposed tailings facility, and the sense of place;
- Define the extent of the affected visual environmental, the viewing distance and the critical views/visual receptors that may be affected by the proposed project;
- Determine the Visual Absorption Potential (ability of the landscape to accommodate the proposed project from a visual perspective);
- The significance of the visual impacts and landscape impacts must be assessed;
- Rate the impact on the visual environment of the proposed development; and
- Suggest measures that could mitigate the negative impacts of the proposed SOFS (DBM) Mining Operation.

11.2.3 Noise Impact Assessment

No noise impact assessment has been undertaken to date as infrastructure placement has not yet been finalized. As such the noise impact assessment can only be undertaken once the exact location of the project related infrastructure has been confirmed.

A noise survey should be carried out in order to:

- Determine the prevailing ambient noise levels in and around the SOFS project area;

- Project the noise impact of the proposed mining method and activities on the environment and identified noise sensitive areas; and
- Recommend engineering control measures to minimise the projected noise impact into the environment and the abutting residential areas.

11.2.4 Blasting and Vibration Assessment

No blast and vibration assessment has been undertaken to date due to the stage of development of the project.

Specific aspects that need to be addressed prior to any construction and/or mining activities being initiated on site include the following:

- Potential for property damage as a result of blast and vibration events;
- Pre-blasting and post-blasting crack surveys need to be undertaken; and
- Additional issues that need to be assessed include the potential impact of blasting and vibration impacts on the existing underground operations and associated infrastructure.

11.2.5 Socio-Economic Assessment

An assessment of property values of surrounding properties/small holdings must be undertaken prior to any construction and mining activities. This is essential in addressing the concerns raised by the I&APs in the public meetings.

12 ENVIRONMENTAL IMPACT STATEMENT

This section of the report is compiled in accordance to the National Environmental Management Act, 1998 (Act No. 107 of 1998) Environmental Impact Assessment Regulation 543 of 2010, Section 31 (2) (n) and (o) as this application must fulfil the requirements of the relevant legislation, including the NEMA and NWA.

The EAPs and environmental consultants responsible for the compilation of this document, and PPP feel that the SOFS Phase 1 (DBM Project) Mining Operation should be approved for mining, on condition that the mine implements all identified management measures, implements the monitoring and rehabilitation plan, as well as address all identified information gaps. In addition the applicant must implement the social and labour plan as approved by the DMR.

In addition, the Applicant must continue with public consultation in order to ensure that the communities surrounding the operation are informed of developments on site throughout the life of mine. A detailed communication strategy must be developed and implemented together with the development of a complaints register to be kept on site for the life of mine.

13 CONCLUSION

Pre-Construction Phase

During the pre-construction phase, the following activities need to be undertaken:

- Environmental authorisations;
- Applicable permitting;
- Additional specialist baseline assessments; and
- Baseline monitoring (key environmental variables).

Construction Phase

During the construction phase, the following activities could impact on the bio-physical environment and the cultural/social setting:

- Stripping of vegetation;
- Stripping of topsoil and subsoil as construction activities start on site;
- Impact on water system and associated wetlands due to the construction activities;
- Construction of the clean and dirty water systems;
- Possible compaction of soils by the establishment of topsoil stockpiles and berms;
- Dust dispersion from infrastructure construction and shaft construction activities; and
- Baseline monitoring (key environmental variables).

Operational Phase

During the operational phase, the following activities could impact on the bio-physical environment and the cultural/social setting:

- Underground mining activities;
- Possible compaction of soils and erosion of soil stockpiles and berms by wind and water;
- Impact on surface- and groundwater system due to the operational activities;
- Dust dispersion from workings;
- Clean and dirty water control and maintenance;
- Sewage management;
- Ancillary activities (workshops, offices, etc); and
- Baseline monitoring (key environmental variables).

Decommissioning and Closure Phase

When the decision is taken to decommission the mine, the following objectives and proposed actions for the decommissioning and closure phase of the mine could be considered:

- Recovery of all saleable infrastructure;
- Demolition of structures;
- Ripping of all compacted areas, which will be followed with amelioration and vegetation;
- Ensure that all remaining dumps, stockpiles and slopes are sufficiently shaped to blend in with the surrounding environment and remaining infrastructure;
- Amelioration and vegetation of all disturbed areas;
- Maintenance of all re-vegetated areas up until such areas initiate succession and create a sustainable cover;
- Monitoring of key environmental variables (i.e. soils, vegetation, groundwater and surface water) in order to demonstrate stability of rehabilitated areas;
- Weed management after closure, limited to areas disturbed by mining, mining infrastructure or included in the mining right area; and
- Monitoring will be undertaken for a specific period after closure or up until such time that all areas create a sustainable cover and ecosystem.

The main issues raised during the consultation process thus far include the following impacts:

ISSUE / CONCERN	SECTION REFERENCE
Public Participation Process	➢ Refer to Section 4, 5 and 6 of the Environmental Impact Assessment and Environmental Management Plan. ➢ Refer to Appendix F-1 for the I&AP Database
Security • Squatters and their cattle are also a major concern. • Theft and crime of crops and livestock; • Trespassing on property and the safety concerns.	➢ Refer to Section 4.14 and Section 6 of the EIA/EMP ➢ Refer to Appendix D-10
Health	➢ Refer to Section 4, 6, 7 and Section 11 of the EIA/EMP. ➢ Refer to Appendix D-10 ➢ Refer to Appendix C
Cultural	➢ Refer to Section 4.12 and 6. ➢ Refer to Appendix D-8 ➢ Refer to Appendix I
Socio-Economic • Measures for local procurement; • Valuation of the farm and affect income and profits;	➢ Refer to Section 4.14 and 6. ➢ Refer to Appendix D-10 ➢ Refer to Section Appendix C

ISSUE / CONCERN	SECTION REFERENCE
• Job Creation and Opportunities ; • Labour Plan, Mining Charter and Enterprise Development; • Transport, catering, building construction, railway, pipes and painting; • Equity shareholding, social responsibility'; • The value of neighbouring farms will drastically reduce as a result of mining activities; • Connectivity between farms are broken; • Due to the mine, no livestock farming will be able to take place.	➢ Refer to Appendix F-1 for the CV's received.
Environmental • Noise and dust	➢ Refer to Section 4, 6, 7 and Section 11 of the EIA/EMP. ➢ Refer to Appendix D-10 ➢ Refer to Appendix C

Identified Impacts and Recommended Mitigation Measures

GCS evaluated the SOFS Phase 1 (DBM Project) Mining Operation in terms of the identified activities related to the following phases:

- Pre-Construction Phase;
- Construction Phase
- Operational Phase; and
- Closure and Decommissioning Phase.

The following impacts were anticipated as per the studies completed:

Geology

The alteration of localized geology will be permanent and unavoidable due to the extraction process.

Topography

The surrounding natural relief will be altered through the placement of mining infrastructure. Mining operations in the area have and will continue to alter the natural topography. This alteration will be of permanent nature.

Soil, Land Use and Land Capability

The soil, land use and land capability within the mining area will be compromised through the presence of tailings dams, rock dumps, associated mine infrastructure, and ancillary infrastructure. Environmental legislation advocates the return of mining land to some form of sustainable land use as per the closure and decommissioning plan for the operation. The

land use and land capability pre-mining is arable and grazing and these should be considered post-closure.

Fauna and Flora

Mining footprint and infrastructure development invariably results in clearing of vegetation on site, both naturally occurring and established vegetation, potential changes in drainage patterns, and destruction of habitat for wildlife. The clearing of vegetation could in itself destabilise soils, change local water balances, and encourage the spread of alien/invasive vegetation. Infrastructural and solid waste development could result in water pollution that may affect a range of organisms and ecosystems. Major negative impacts would be associated with species of conservation importance as well as impacts on migratory habits of fauna within the project area.

Wetlands

The majority of the wetland types within the project area have been disturbed by cultivation and alien invasive species. Potential impacts are the loss of wetland habitat, increased sediment movement into adjacent wetlands, altered run-off characteristics leading to hydrology changes of wetlands on site and water quality deterioration. The wetlands in the project area can provide islands for significant flora and fauna species.

Hydrology (Surface Water)

The potential for surface water contamination exists if the operation does not employ adequate and appropriate storm water control measures and if clean and dirty water separation is not implemented on site. Impacts would not be limited to the site area and would thus require monitoring and management throughout the life of the mine.

Hydrogeology (Groundwater)

The potential exists that significant ground water impacts, both direct and cumulative, could materialise due the nature and scale of the operation. Impacts associated with groundwater quality changes and impacts to the water table due to dewatering activities could be significant if not adequately managed. Further impacts associated with the potential for acid mine drainage are also possible. Impacts would not be limited to the site area and would thus require monitoring and management throughout the life of the mine.

Air Quality

The impact of the proposed operation on the air quality would be related directly to dust generation and liberation. Impacts would not be limited to the site area and would thus require monitoring and management throughout the life of the mine.

Heritage

No significant impacts are applicable at this stage. Further clarity is required in respect of the infrastructure location and ancillary infrastructure identification to determine the exact nature of the impact on the two identified sites of potential importance. All graves are considered of high significance.

Social Impacts

The construction, development and operation of a new mining operation with the creation of new jobs will lead to high levels of expectation and possibly result in an influx of job-seekers. Potential negative impacts are associated with the influx of job-seekers to the area, informal housing development, potential safety and security issues for existing land owners, crop and infrastructure theft, and potential impacts on property values for directly and indirectly affected land owners. Potential positive impacts associated with the project include job creation and economic development (local and regional).

In addition the cumulative impacts were assessed and evaluated. Based on the findings of the impact assessment, a number of management measures and action plans were proposed and the identified impacts re-assessed to determine whether mitigation would change the overall significance of the identified impact.

In order for the anticipated impacts to be managed effectively, Wits Gold must adhere to the proposed management and action plans proposed in order to ensure that the anticipated impacts associated with the SOFS Phase 1 (DBM Project) Mining Operation are, indeed, minimised.

Information Gaps, Assumptions and Limitations

Information contained in this EIA/EMP Report is based on technical information received from the client, as well as the outcomes of the Specialist Studies undertaken. The Specialist Studies undertaken were conducted on the basis of the information available at the time. The Specialist Studies undertaken only took into account the area identified for infrastructure placement.

The option to switch from a Greenfields TSF option to that of a Brownfields TSF option occurred after the majority of the studies had been completed. A change in the assessment

criteria would have resulted in additional cost time being required for the Specialists to address these changes. Due to the nature of this project and the fact that the identified impacts associated with the Greenfields TSFwould be less significant than that of the Brownfields TSF, it was determined by the client in agreement with the EAP that sufficient information regarding the Brownfields TSF site is available. The monitoring programme as presented in the EMP has to be implemented to determine whether this assumption proves to be correct, if not, detailed studies will have to be initiated.

The following gaps in information were identified:

Geohydrological (Groundwater) Assessment

Groundwater levels in the Witwatersrand Supergroup aquifer are currently unknown. Monitoring boreholes (deep core boreholes) should be drilled and equipped with pressure gauges. Infill drilling/exploration boreholes may be used for this purpose. Regular pressure readings must be taken to monitor changes in the groundwater table. If possible, these boreholes should be placed throughout the mine to assess the regional groundwater table. It is initially envisaged that 4 boreholes be drilled to mining depth. Deep boreholes must be drilled in strategic areas such as the shaft or decline area, into the De Bron Fault and proposed underground workings. Flow logging should also be performed on the newly drilled boreholes. The purpose of performing flow logging is to determine aquifer parameters (T-values), identify preferential flow paths and depth of major water strikes that are intersected. Testing of boreholes sections must take place as drilling proceeds, prior to casing installation and/or grouting. Once all the data has been collected, the site conceptual model should be verified and updated using the new information. The numerical groundwater model should then also be update with the newly collected data.

Visual Impact Assessment

No visual impact assessment has been undertaken to date, as shaft and tailings positions have not yet been finalised.

To evaluate the impacts of the proposed activity, the inherent scenic value of the landscape first needs to be determined. Data collected during a site visit would allow for a comprehensive description and valuation of the receiving environment. The following method should be used for the project:

- Site visit - one field survey should be undertaken and the study area scrutinized to the extent that the receiving environment can be documented and adequately described;
- Project components - the physical characteristics of the project components must described and illustrated;

- Determine the setting, visual character and land use of the area surrounding the proposed tailings facility, and the sense of place;
- Define the extent of the affected visual environmental, the viewing distance and the critical views/visual receptors that may be affected by the proposed project;
- Determine the Visual Absorption Potential (ability of the landscape to accommodate the proposed project from a visual perspective);
- The significance of the visual impacts and landscape impacts must be assessed;
- Rate the impact on the visual environment of the proposed development; and
- Suggest measures that could mitigate the negative impacts of the proposed SOFS (DBM) Mining Operation.

Noise Impact Assessment

No noise survey has been undertaken to date.

A noise survey should be carried out in order to:

- Determine the prevailing ambient noise levels in and around the SOFS project area;
- Project the noise impact of the proposed mining method and activities on the environment and identified noise sensitive areas; and
- Recommend engineering control measures to minimise the projected noise impact into the environment and the abutting residential areas.

Blasting and Vibration Assessment

No blast and vibration assessment has been undertaken to date.

Specific aspects that need to be addressed prior to any construction and/or mining activities being initiated on site include the following:

- Potential for property damage as a result of blast and vibration events;
- Pre-blasting and post-blasting crack surveys need to be undertaken; and
- Additional issues that need to be assessed include the potential impact of blasting and vibration impacts on the existing underground operations and associated infrastructure.

Socio-Economic Assessment

An assessment of property values of surrounding properties/small holdings must be undertaken prior to any construction and mining activities. This is essential in addressing the concerns raised by the I&APs in the public meetings.

Benefits of the Project

Local Market

Rand Refinery (South Africa) is one of the largest gold refineries globally and is currently refining 100% of newly mined gold and silver in South Africa, and 75% of all the gold mined in Africa. The product from the SOFS Mining Operation will thus be sold to Rand Refinery.

Regional and International Markets

All gold produced locally will be sold to the Rand Refinery. No gold will be sold to other regional or international markets.

Local Municipalities

Following initial consultation with the Matjhabeng and Masilonyana Local Municipalities, regarding needs and priorities, as identified by their Integrated Development Plans (IDPs), the following projects will receive further investigation:

- Virginia Farm; and
- Tikwe Lodge to be turned into Eco Tourism, Events Hosting and Agricultural Training.

Wits Gold is also investigating the possibility of taking over projects that are currently being phased out by Harmony Gold.

The DMR has offered to co-ordinate the prioritisation of Local Economic Development (LED) projects with Wits Gold, the relevant municipalities and existing mines in the area. Once the DMR has, in principle, approved of the selected (LED) projects, further consultation with the Local Municipalities and relevant stakeholders will take place to finalise the project implementation requirements as well as the way forward.

Small, Micro and Medium Enterprises (SMME) development

Wits Gold will contribute towards mine community economic development by using mainly Black Economic Empowerment (BEE) compliant companies for the provision of goods and services to the mine. Wits Gold is committed to awarding procurement contracts to companies which demonstrate suitable Historically Disadvantaged South Africans (HDSAs) participation in Management (and general employment) as well as local companies.

Wits Gold intends to support Small, Micro and Medium Enterprises (SMMEs), which will be able to provide them with the relevant services. These SMMEs will be appointed on a contractual basis, on the condition that their services are relevant and the quality thereof, acceptable.

Housing and living conditions

In order to decrease single sex accommodation and to prevent the establishment of hostel accommodation, Wits Gold proposes to use local labour. Housing allowances will be provided to staff and local housing within the towns of Virginia, Theunissen, Meloding and Welkom will be used as far as possible.

The applicant will promote home ownership; therefore employees will be afforded the opportunity to participate in wealth accumulation through the ownership of property. It is believed that this will in the long term ensure that housing is sustainable even after mine closure. The applicant will facilitate housing development in the host municipality area to ensure adequate and acceptable housing and living conditions of the employees. It is believed that this will build a sustainable economy and quality of life of the host community through integration of employees housing needs into the host municipality's housing and settlement plans.

The Company aims to improve the quality of life of all employees and restore the self-respect and dignity of employees in line with the Mining Charter and the aspirations of employees through:

- Conducting individual assessments with employees to determine their current and aspired housing conditions;
- Encouraging employees to take home ownership in existing sustainable areas;
- Establishing an open communication process whereby employees may communicate any problems and suggestions with regards to their housing needs;
- Facilitating the development of housing options that will accommodate employees housing needs;
- Providing programmes to educate employees with regard to home ownership and budgeting education; and
- Facilitating private investment from developers and/or banks for home owners.

Provision will be made for a R 10,000,000.00 investment over 5 years to improve on the housing conditions of mine workers.

Nutrition

In order to ensure that employees are aware of the advantages of a balanced diet, nutrition awareness will be promoted through a Wellness programme.

The Company will adopt a comprehensive approach to address nutrition and this will be addressed in the employee Wellness Programme, which will be developed as part of the implementation plan of the Social and Labour Plan (SLP). It is envisaged that the employee Wellness Programme will enhance the standard of living of all employees.

The employee Wellness Programme will focus on:

- Nutrition, where staff will be advised on healthier eating habits which will include:
    - Measures to improve nutrition, which will be done in accordance with the standards set out by the Chamber of Mines and the South African Health Standards Authorities;
    - Inducting and informing all employees on the National food based dietary guidelines. The intention will be that employees themselves acknowledge that each one has a role to be conscious of healthy eating habits;
- Educating employees and their families with regard to nutrition and wellness programmes with emphasis on HIV/AIDS and Tuberculosis, and provide information on common injuries that cause back pains;
- Wellness workshops which will include nutrition, exercise, stress management etc;
- Wellness incentive programme: Reward employees for making positive choices; and
- Providing health supplements to employees.

The Company will retain the services of a specialist healthcare services provider in order to compile a comprehensive wellness strategy which will integrate with community health issues. The strategy will include a health improvement programme that will address nutritional wellness, body wellness, emotional wellness and social issues.

No-Go Principle

If the no-go principle were applied, then the area in which the proposed SOFS Phase 1 (DBM Project) Mining Operation is located would continue with the land use and activities that are currently in place, namely commercial agriculture activities. The potential job creation benefit of the project (±1,635 jobs over the life of mine) would not materialise and the opportunity to employ women in mining, as per the requirements of the MPRDA, would also not occur. In addition the potential loss of contribution to economic development in the project area as well as compliance with the regions IDP, based on the SLP developed for the project, would be limited.

The no-go option would ensure that there would be significantly less environmental impacts in the area as a result of mining operations. Impacts would only be related to the existing

mining operations within the Virginia area, specifically the Harmony gold mining operation located to the north west of the proposed project area. In addition to this, the existing Harmony Merriespruit TSF would remain as is, with minimal rehabilitation potential.

The continuation of commercial agriculture activities, as are currently taking place, would ensure that the current status quo in terms of revenue, economic contributions, employment and housing would continue. The potential expansion of these commercial agriculture enterprises would be limited to the areas currently being used specifically since the establishment of informal housing within the area is already evident.

If mining was not undertaken in the project area, the area could be utilised for housing developments and, potentially, other small, medium and large scale commercial opportunities. Alternatively, small-scale agricultural developments could take place (i.e. crop and livestock farming).

Motivation for Project

The SOFS Phase 1 (DBM Project) Mining Operation will ensure:

- Provision of sustainable employment (retention);
- Ongoing economic input into the area; as older mines in the vicinity are in a closure phase;
- Provision of a regional socio-economic benefit;
- Economic injection into the region in terms of small business enterprises (e.g. community services); and
- Ongoing supply of gold to the local and international markets.

The EAPs and environmental consultants responsible for the compilation of this document, and PPP is of the opinion that the SOFS Phase 1 (DBM Project) Mining Operation should be approved for mining, on condition that the mine implements all identified management measures, implements the monitoring and rehabilitation plan, as well as address all identified information gaps. In addition the applicant must implement the social and labour plan as approved by the DMR.

In addition, the applicant must continue with public consultation in order to ensure that the communities surrounding the operation are informed of developments on site throughout the life of mine. A detailed communication strategy must be developed and implemented together with the development of a complaints register to be kept on site for the life of mine.

14 REFERENCES

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Cunningham, G.I., Spindler, T.V., 2009.Technical Report on the Pre-Feasibility study for the Bloemhoek Project Southern Free State, Goldfield, South Africa. Witwatersrand Consolidated Cold Resources Ltd.

Kijani Green Energy, 2012. Air Quality Impact Assessment.

GCS (Pty) Ltd, 2012. Hydrological Impact Assessment.

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TerraAfrica Consult cc, 2012, Earth Science Solutions (Pty) Ltd. Wits Gold Soils, Land Capability & Land Use Report.

Turgis Mining Consultants. (2012). Pre-Feasibility Study for DBM Gold Mine.

Turgis Mining Consultants. (2011). Preliminary Assessment of the De Bron-Merriespruit Project (DBM Project), South Africa

Wetland Consulting Services (Pty) Ltd, 2012. Wetland and Aquatic Ecology Assessment for the Proposed Wits Gold DBM Project near Virginia, Free State.

15 UNDERTAKING BY CLIENT

An undertaking of agreement to the management strategies as proposed in the EIA/EMP as well as an undertaking of approval of the EIA/EMP is provided on the following page.

UNDERTAKING

(to be completed upon the approval of document)

I, _____ the undersigned and duly authorised thereto by Witwatersrand Consolidated Gold Resources Limited (Wits Gold), have studied and understand the contents of this Environmental Impact Assessment and Environmental Management Programme (EIA/EMP) and duly undertake to adhere to the conditions as set out therein, unless specifically or otherwise agreed to.

Signed at _____ on this_____ day of _____ 20 _____.

_____

Signature of Applicant

I, _____ the undersigned and duly authorized thereto by the DEPARTMENT OF MINERAL RESOURCES: FREE STATE REGION have studied and approved the contents of this Environmental Impact Assessment and Environmental Management Programme (EIA/EMP).

Signed at _____ on this_____ day of _____ 20 _____.

_____

Signature of Regional Manager: Mineral Regulation

Appendix A: CVs of Specialist Team

Rona Schröder

Senior Environmental Assessment Practitioner

CORE SKILLS

- Project Management
- Environmental Impact Assessment
- Water Use Licencing
- Mining Environmental Compliance
- Environmental Compliance Auditing
- Environmental Strategic Action Plans

DETAILS

Qualifications

- B.Sc. (Hons) Environmental Analysis and Management - University of Pretoria (2011)
- B.Sc. Geology and Management - University of the Free State (2012)
- SHEilds (NEBOSH) International General Certificate in Occupational Health and Safety (2018)
- Certificate in Project Management for Strategic Advantage, University of Stellenbosch Business School (2017)

Professional Registrations

- Environmental Assessment Practitioners Association of South Africa (EAPASA) (2020/1149)
- Pr.Sci.Nat (120605), South African Council for Natural Scientific Professionals)
- International Association for Impact Assessors of South Africa (IAIASA)

Languages

- English
- Afrikaans

Countries Worked In

- South Africa
-

PROFILE

Rona has over 10 years's experience within the environmental management, water and mining field and is aimed at delivering the required environmental services for each client.

Rona has experience in the environmental fields as an Environmental Assessment Practitioner as well as having worked in the mining field on-site ensuring environmental compliance for several mining and processing sites.

She has dealt with projects in the mining, municipal, farming, electricity generation, telecommunications and water industries. She has been involved with environmental projects from site screening and feasibility, environmental application, writing of Environmental Management Programes (EMPr), writing of technical reports all the through to Stakeholder Engagement Processes and completing of projects up to issuing authorization permits and licenses.

- Proposal Writing and project management
- Stakeholder Management and Engagement
- Government institution and authority liaison
- Water Use Licence Applications
- Environmental Impact Assessment / Basic Assessments
- Environmental Compliance Officer
- Public Participation Processes
- Environmental Compliance Auditing
- Mining Environmental Projects and Licensing
- Environmental Screening and Site Evaluations
- Environmental Training

Previous Experience

Period	Employer	Position	Role/ Responsibility
2021 - 2023	Ikwezi Mining & Zinoju Coal & Zarbon Coal	Group Environment Manager	**I started as Group Environment Officer for Ikwezi Mining and Zarbon Coal and was promoted to Group Environment Manager for Ikwezi Mining, Zarbon Coal and Zinoju Coal. Here is a brief description of my responsibilities at Ikwezi Mining and Buffalo Coal.** • **Responsible for obtaining all relevant environmental authorizations and licenses for the current mining and plant operations as well as new projects;** • **Managing environmental compliance for opencast and underground mining operations as well as washing plants;** • **Departmental and community liaising on all environmental aspects;** • **Project planning, project management and process management for applications and specialist studies;** • **Developing and reviewing SOPs and COPs for environmental aspects;** • **Environmental Auditing, compliance tracking and reporting;** • **Environmental awareness program development and implementation;** • **Environmental monitoring and reporting;** • **Action plans development and implementation;** • **Guidance and implementation of Environmental Legislation;**
2019 - 2021	ACE Environmental Solutions	Head of Department: Environmental	• **Project Management; Proposal Writing for new projects; Company Marketing; Document Quality Assurance;** • **Environmental Authorizations, Water Use License Applications and Waste Management License Applications;** • **Client and Government Department Liaisons;** • **Environmental Compliance Auditing;** • **Managing of Environmental Impacts Assessments and developing implementable mitigation measures to reduce possible impacts;** • **Managing Stakeholder Engagement Processes for authorizations and licensing**

			applications; • Development and implementation of Environmental Management Plans (EMP); • Developing Protocols for environmental processes
2013 - 2019	Alta van Dyk Environmental Consultants	Environmental Consultant	• Project Management of multi-disciplinary teams; • Please note that our standard 2023 terms and conditions were sent out in December of 2022. • Environmental Compliance Auditing of Authorizations (ECO), Authorizations and Environmental Management Programmes (EMP); • Project Management for Environmental Processes under the National Environmental Management Act (NEMA), Mineral and Petroleum Resources Development Act (MPRDA) and National Water Act (NWA); • Environmental Authorization, Water Use License and Waste Management License Applications; • Proposal Writing for new projects; • Identification and assessments of Environmental Impacts Assessments and developing implementable mitigation measures to reduce possible impacts; • Report Writing and reviewing; Client and Government Department Liaisons; • Stakeholder Engagement Processes for authorizations and licensing applications; • Development and implementation of Environmental Management Plans (EMP); • Developing License Auditing Protocols for conducting environmental legal compliance audits, • Experience as a Data Controller for a large international company with several operations as part of their due diligence process and management system actions;
2013	**Prime Africa Consultants**	**Risk Assessment Matrix Developer**	• Developing a Multi Criteria Risk Assessment Matrix for site selection during Environmental Impact Assessments.

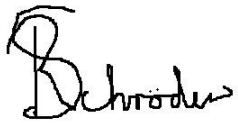
Project Experience

Year	Client	Project Description	Role/Responsibility
2013-2015	Pandora Platinum Mine	Environmental Impact Assessment and Water Use Licence Application	Environmental Practitioner
2014	Lonmin Plc	Baobab, Dwaalkop and Doornvlei External Water Use Licence Audits	Environmental Practitioner
2014-2019	Lonmin Plc	Marikana Operations Water Use Licence Audit	Environmental Practitioner
2015	Lonmin Plc	Precious Metal Refinery Water Use Licence Application	Environmental Practitioner
2015-2016	Lonmin Plc	Marikana Operations Water Use Licence Application	Environmental Practitioner
2016	Keaton Energy	Vanggatfontein Colliery Wash Plant Extension Authorisation	Environmental Practitioner
2016-2018	Keaton Energy	Vanggatfontein Colliery External Water Use Licence Audits	Environmental Practitioner
2016	Nqutu Local Municipality	Rural Electrification Project Ndodekhling-Shayiwe Small Scall Hydropower Plant	Environmental Practitioner
2016	Mhlontlo Local Municipality	Rural Electrification Project Kwa-Madiba Small Scale Hydropower Plant	Environmental Practitioner
2016	Anglo Thermal Coal	Licence and Permitting Database Development – For all Coal Operations	Data Controller
2016	Anglo Platinum	Licence and Permitting Database Development – For all Platinum Operations	Data Controller
2019	Ekurhuleni Metropolitan Municipality	Mooifontein Cemetery Extension Water Use Licence Application	Environmental Practitioner
2019	Blue Valley Golf Estate	Environmental Management Programme	Environmental Practitioner
2017	Nkomati Anthracite	Water Use Licence Audit Report	Environmental Practitioner
2017	Nkomati Anthracite	Basic Assessment Report	Environmental Practitioner
2017-2019	Lonmin Plc	Baobab, Dwaalkop and Doornvlei External Water Use Licence Audits	Environmental Practitioner
2018	Glencore	Chrome Plant Environmental Impact Assessment and Water Use Licence Application	Environmental Practitioner

2018-2019	Lonmin Plc	Precious Metal Refinery Water Use Licence Audit	Environmental Practitioner
2018-2019	Lonmin Plc	Marikana Operations Water Use Licence Application Amendment	Environmental Practitioner
2020-2021	Atlas Towers	Telecommunications Mast Basic Assessments	Project Manager and Environmental Practitioner
2021-2023	Ikwezi Mining	Opencast Mining and Coal Washing Plant Compliance	Group Environmental Manager
2022-2023	Buffalo Coal	Underground Mining and Coal Washing Plant Compliance	Group Environmental Manager

DECLARATION

I, Rona Schröder, hereby declare that the details furnished above are true and correct to the best of my knowledge and belief and I undertake to inform you of any changes therein, immediately. In case any of the above information is found to be false or untrue or misleading or misrepresenting, I am aware that I may be held liable for it.

Signature:  Date: 15/01/2024

UNIVERSITY OF THE **FREE STATE**
UNIVERSITEIT VAN DIE **VRYSTAAT**
YUNIVESITHI YA **FREISTATA**

THIS IS TO CERTIFY THAT THE DEGREE HIERMEE WORD VERKLAAR DAT DIE GRAAD

Baccalaureus Scientiae

HAS BEEN CONFERRED UPON
TOEGEKEN IS AAN

SCHRÖDER, Rona Wilma

IN ACCORDANCE WITH THE STATUTES AND REGULATIONS OF THE UNIVERSITY. AS WITNESS OUR RESPECTIVE SIGNATURES AND THE SEAL OF THE UNIVERSITY BELOW.

NADAT AAN DIE STATUTE EN REGULASIES VAN DIE UNIVERSITEIT VOLDOEN IS. AS BEWYS DAARVAN PLAAS ONS ONS ONDERSKEIE HANDTEKENINGE EN DIE SEëL VAN DIE UNIVERSITEIT HIERONDER.

ENDORSEMENT: GEOLOGY AND MANAGEMENT
ENDOSSEMENT: GEOLOGIE EN BESTUUR

VICE- CHANCELLOR / VISEKANSELIER

DEAN / DEKAAN

REGISTRAR / REGISTRATEUR

BLOEMFONTEIN
2012-03-28
2007009976

28055749

Universiteit van Pretoria

Die Raad en die Senaat verklaar hiermee dat die graad

Baccalaureus Scientiae Honores

in

Omgewingsanalise en -bestuur

met al die regte en voorregte daaraan verbonde by geleentheid van 'n kongregasie van die Universiteit toegeken is aan

Rona Wilma Schroder

kragtens die Wet op Hoër Onderwys, 1997 en die Statuut van die Universiteit

Namens die Raad en die Senaat

C. de la Rey

Visekanselier en Rektor

Namens die Fakulteit
Natuur- en Landbouwetenskappe

Dekaan

Registrateur

2013-04-17

nebosh

Management of international health and safety

A unit of the:
NEBOSH International General Certificate in Occupational Health and Safety
NEBOSH International Certificate in Construction Health and Safety
NEBOSH International Certificate in Fire Safety and Risk Management

Rona Wilma Schroder

achieved this unit on

12 November 2018

William Nixon
Chair

Ian Taylor
Chief Executive

Master log certificate No: IGC1/00447107/1026644
SQA Ref: UE48 04

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Hiermee word gesertifiseer dat
It is hereby certified that

Rona Wilma Schroder

die volgende kursus suksesvol voltooi het
successfully completed the following course

PROJECT MANAGEMENT FOR STRATEGIC ADVANTAGE (ONLINE)

Number of Short Course Credits : 8

Vir die periode
Over the period

24/01/2017 - 10/03/2017

Prof Piet Naude
Director/Direkteur USB

Frik Landman
Chief Executive Officer
Hoof-Uitvoerende Beampte

USB Executive Development
University of Stellenbosch Business School

4497/55470

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Email: registrar@eapasa.org / Website: www.eapasa.org

Environmental Assessment Practitioners Association of South Africa
Advancing environmental assessment practice in South Africa

Miss Rona Schroder
384 Fountains Avenue
Lyttelton
Pretoria
0157

Sent by email to: blommetjie@ymail.com

Dear Miss Schroder

Registered Environmental Assessment Practitioner: Number 2020/1149
Rona Wilma Schroder : South African ID 8901300067080

The Environmental Assessment Practitioners Association of South Africa (EAPASA) herewith certifies that Rona Wilma Schroder is a Registered Environmental Assessment Practitioner (EAP) in accordance with the prescribed criteria of Regulation 15.(1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Your registration is duly authorised by EAPASA as the single Registration Authority for EAPs in South Africa (appointed as per Regulation No. 104, Gazette No. 41434 of 8 February 2018, in terms of section 24H(3)(a) of the NEMA). Your status as a Registered EAP is displayed in the 'EAP Register' - please find your name and contact email address at

https://registration.eapasa.org/registered-practitioners

Your registration is effective for a period of five years from 31 August 2020, and expires on 31 August 2025. The renewal of your registration in 2025 will be contingent on you having met the requirements of EAPASA's Continuing Professional Development (CPD) policy during each year of registration.

As a Registered EAP you are required to uphold the EAPASA Code of Ethical Conduct and Practice in your professional endeavours, towards the goal of quality assurance in environmental assessment practice.

Please accept my congratulations on your registration.

Best regards

RC Hill

Dr Richard Hill
Registrar
Date: 31 August 2020

Board Members: Ms Snowy Makhudu (Chairperson), Mr Khangwelo Desmond Musetsho (Vice-Chairperson),
Mr Ntsako Baloyi, Mr Zama Dlamini, Mr Siyabonga Gqalangile, Ms Jacqui Hex,Mr Phumudzo Nethwadzi, Mr Danie Neumann.
Registrar: Dr Richard Hill
NPO Reg. No. 122-986

Gerda Bothma

GCS Group Environmental Manager

CORE SKILLS

- Project Management
- Technical & Impact Assessment Guidance
- Environmental Assessment
- Water Use Licencing
- Waste Management Licencing
- Environmental & Waste Auditing and Compliance Monitoring

DETAILS

Qualifications

- B.Sc. Microbiology (Honours) University of Pretoria 1996
- B.Sc. Biological Sciences University of Pretoria 1994

Memberships/ Professional Affiliations

- International Association for Impact Assessors of South Africa (IAIA)
- Institute of Waste Management of South Africa (IWMSA)
- SACNASP (No.117348) (South African Council for Natural Scientific Professionals)

Languages

- Afrikaans
- English

Countries worked in:

South Africa, Zambia, Namibia

PROFILE

Gerda has over 25 years' experience within the environmental and waste management field and strives to deliver custom environmental services to clients.

Gerda began her career in the environmental field within the government sector, managing environmental aspects and impacts as well as reviewing environmental assessments with the view of authorizing or declining authorization of the developments.

After six years within the government sector she joined a consulting engineering firm where she was ultimately responsible for the Management of the Environmental Sub-Division. Gerda has experience in project and client management, financial management and the compilation and costing of project proposals and tenders. She has been involved in several engineering projects as the Environmental Assessment Practitioner as well as the Environmental Control Officer during construction working closely with the Occupational Health and Safety Officer. Gerda has also been involved in projects where waste licensing as well as water use licensing processes formed an integral part of the services offered. Environmental auditing and compliance monitoring of waste disposal sites also forms part of her experience gained. She also has experience in dealing with projects which involve NEC3 Contracts, the Equator Principles and World Bank IFC Principles.

Gerda has specialist skills in the following areas:

- Project proposals, planning, costing and timing
- Project and Client Management
- Authority Liaison
- Basic Assessments & Scoping/EIA Processes
- Amendment of EA's & EMP's
- S24G Applications
- Facilitation of Public Participation Processes & Stakeholder Engagement
- IWULA & IWWMP Applications
- Environmental Control Officer (ECO) duties
- Environmental Compliance Auditing (IFC Performance Standards & Equator Principles)
- Mentorship & Guidance

Work Experience

Period	Employer	Position	Role/ Responsibility
2019 to Current	GCS Water and Environment (Pty) Ltd	Environmental Manager	Management of the environmental unit since 2019 up to January 2024 and then the GCS Group Environmental Division since February 2024. Management of applications for rectification in terms of Section 24G of the EIA Regulations, undertaking basic environmental assessment and full Scoping & EIR applications in terms of the Regulations. Management of Integrated Water Use License Applications in terms of the NWA. Undertaking of environmental compliance audits for various construction projects as well as environmental legal audit reviews and environmental due diligence investigations.
2018 to 2019	Terramanzi Group (Pty) Ltd	Senior Environmental Consultant	Management of the environmental unit within the Terramanzi Group. Management of applications for rectification in terms of Section 24G of the EIA Regulations, undertaking basic environmental assessment and full Scoping & EIR applications in terms of the Regulations. Undertaking of environmental compliance audits for various construction projects as well as environmental legal audit reviews and environmental due diligence investigations.
2014 to 2017	GIBB (Pty) Ltd	Senior Environmental Scientist	Management of applications for rectification in terms of Section 24G of the EIA Regulations, undertaking of basic environmental assessment and full Scoping & EIR applications in terms of the Regulations. Management of Integrated Water Use License Applications in terms of the NWA. Undertaking of environmental compliance audits for various construction projects as well as environmental legal audit reviews and environmental due diligence investigations.
2011 to 2013	WorleyParsons RSA	Senior Environmental Scientist & Durban Department Head Environment	Management of the environmental unit in the Durban Office. Management of applications for rectification in terms of Section 24G of the EIA Regulations, undertaking of basic environmental assessment and full Scoping & EIR applications in terms of the Regulations. Management of Integrated Water Use License Applications in terms of the NWA. Undertaking of environmental compliance audits for various construction projects as well as environmental legal audit reviews and environmental due diligence investigations.
2003 to 2011	KV3 Engineers	Senior Environmental Scientist	Management of applications for exemption from compliance with the EIA Regulations, undertaking of basic environmental assessment applications, as well as full environmental impact assessment applications.
2000 to 2003	Gauteng Department of Agriculture, Conservation & Environment	Assistant Director: Waste Management Division	Project management and environmental management pertaining to all developments within a designated area in Gauteng Province. Review of EIAs, formulation of comments and or authorisations within designated area in Gauteng Province. Liaison with waste contractors, industries and others. Management of legal interventions required in terms of environmental legislation within a designated area. Supporting environmental officers at all levels in terms of technical and environmental guidance, input into strategic decisions, resolving complex and potentially challenging issues.
1999 to 2000	Gauteng Department of Agriculture, Conservation & Environment	Senior Environmental Officer: Waste Management Division	
1997 to 1999	Gauteng Department of Agriculture, Conservation & Environment	Environmental Officer: Waste Management Division	
1996	Spartan Private School	Teacher: Natural Science & Biology	Teacher in Biology and Natural Science for Grades 7 to 12.

Year	Client	Project Description	Role/ Responsibility
Strategic and Environmental Guidance Projects			
1999 to 2003	Gauteng Department of Agriculture, Conservation & Environment	Development of a Health Care Risk Waste Management Strategy for Gauteng.	Part of Development Team
2001 to 2003	Gauteng Department of Agriculture, Conservation & Environment	Development of Minimum Domestic Waste Collection Standards for Gauteng Province.	Part of Development Team
2002	Gauteng Department of Agriculture, Conservation & Environment	Development of new EIA guidelines and regulations for the Gauteng Province.	Part of Development Team
2005	Gauteng Department of Agriculture, Conservation & Environment	GDACE Green Procurement Project: Development of the GDACE Green Procurement Policy, Gauteng	Project Manager & Reviewer
2008	GAUTRAIN Project Engineers (i.e. KV3 Engineers)	Environmental Assistance for the Gautrain Project: Environmental Evaluation of various documentation and engineering designs in terms of their environmental compliance.	Project Manager & Reviewer
2009	Department of Environmental Affairs	Alignment of MIG Project Process with EIA Process: Evaluation of the EIA process as well as the MIG process in order to produce a process alignment guideline to the municipalities to streamline the two processes.	Part of Development Team
2021	CoalTech	Development of "A Manual for the Authorisation of Pitlakes as a Closure Option for South African Coal Mines"	Part of Development Team
Environmental Feasibility and Screening			
2008	Nu Way-property Developments	Management of Environmental Screening and Due Diligence Assessment for several proposed Nu Way-property Developments, Gauteng.	Project Manager
2008	Department of Water Affairs	Mokolo Croc WAP Environmental Feasibility and Screening, Limpopo.	Project Manager & Senior Environmental Assessment Practitioner (EAP)
2016	Kwadukuza Municipality	Environmental Feasibility for Civil Engineering Project Foxhill Road Alignment and Construction, Tongaat, Kwa-Zulu-Natal.	Environmental Project Leader
2016	King Sabata Dalindyebo Local Municipality (C/O OR Tambo District Municipality)	Environmental Screening Investigation of six proposed development corridors for the Mthatha Bulk Water Infrastructure Presidential Intervention – Phase 2: Secondary Bulk Infrastructure project.	Environmental Project Leader
2019 to 2020	Phumaf Holdings (Pty) Ltd	Environmental Screening for various sites within Ekhurhuleni Municipality as part of the Gauteng Rapid Land Release Programme (GRLRP) project for the Provincial Department of Human Settlements	Project Manager & Senior EAP

Year	Client	Project Description	Role/ Responsibility
Environmental Opinions & Appeals			
2019 to 2020	Tendele Coal	Environmental Review Report for the Somkhele Anthracite Mine (MR 10041) High Court Case Number 82865.	Project Manager & Senior EAP
2022	CNG Holdings	Environmental Opinion regarding the Environmental Legislative Requirements for the proposed Compressed Natural Gas Motherstation in Avoca, KwaZulu-Natal.	Project Manager & Senior EAP
2021 to 2022	Tendele Coal	Environmental support to the Somkhele Anthracite Mine for the IWULA Appeals Process.	Project Manager & Senior EAP
Development Environmental Assessments			
2003 to 2005	ABSA DevCO	Environmental Impact Assessment for a change of land-use from agricultural to Residential and Town Development of the farm Brakfontein 399 JR, Centurion, Gauteng.	Project Manager & Senior EAP
2005 to 2010	Air Traffic Navigation Services (ATNS)	The project entails the upgrading of existing, and the provision of new air navigation sites (27 in total) throughout South Africa. Civil and electrical infrastructure to the sites needed to be upgraded to accommodate the equipment. Various Environmental Impact Assessments for various individual projects in various provinces within South Africa.	Project Manager & Senior EAP
2006 to 2009	Amathole District Municipality	Elliotdale Rural Sustainable Human Settlement Pilot Project Environmental Impact Assessment. Responsible for the environmental assessment process which was based on a strategic approach for the Elliotdale Rural Housing Project, Elliotdale, Eastern Cape.	Project Manager & Senior EAP
2007	Elkem Ferroveld	Environmental Basic Assessment for the upgrading and expansion of the Ferroveld Plant in Ferrometals, Emahlaheni, Mpumalanga.	Project Manager & Senior EAP
2008	ABSA DevCO	Environmental Impact Assessment for a change in land use from agricultural to Residential and Town development of Montana X40, Pretoria, Gauteng.	Project Manager & Senior EAP
2012	Transnet Capital Projects	Environmental Basic Assessment and technical environmental investigations for the proposed expansion of the existing tug jetty and construction of a new tug jetty for Transnet Capital Projects in the Port of Durban, KwaZulu-Natal.	Project Manager & Senior EAP
2014 to 2016	Dube TradePort	Environmental Impact Assessment for the proposed construction of the Dube TradePort TradeZone 2 in La Mercy, KwaZulu-Natal.	Project Manager & Senior EAP
2014 to 2017	Dube TradePort	Environmental Impact Assessment for the proposed Support Precinct 2 Development in La Mercy, KwaZulu-Natal.	Project Manager & Senior EAP
2016 to 2017	Areena Resort	Application for rectification in terms of S24G and associated Environmental Basic Assessment for the alleged unlawful construction activities at the Areena Resort, Great Kei Municipality, Eastern Cape.	Project Manager & Senior EAP
2016 to 2017	Areena Resort	Application for rectification in terms of S24G and associated Environmental Basic Assessment for the alleged unlawful construction activities on Hillsdrift Farm, Great Kei Municipality, Eastern Cape.	Project Manager & Senior EAP
2018 to 2019	Watchman Properties (Pty) Ltd	Environmental Basic Assessment for the proposed Vendome Residential Development on Portion 1 of Farm 1766 and Portion 2 of Farm 1766, Paarl, Western Cape, South Africa.	Project Manager & Senior EAP

Year	Client	Project Description	Role/ Responsibility
2018 to 2019	Keysha Investments 213 (Pty) Ltd	Environmental Basic Assessment for the proposed River Farm Estate Development and associated infrastructure on remainder of farm Rivierplaas No. 1486, Erf 111 and Erf 197, Paarl, Western Cape, South Africa.	Project Manager & Senior EAP
2018 to 2019	Paarl Vallei Developments (Pty) Ltd	Environmental Basic Assessment for the proposed Paarl Valleij Retirement Village Development, Paarl, Western Cape, South Africa.	Project Manager & Senior EAP
2018 to 2019	Val de Vie Investments (Pty) Ltd	Parallel Substantive Amendment Application process for the authorised Pearl Valley II & Levendal Residential Developments, Paarl, Western Cape, South Africa.	Project Manager & Senior EAP
2019 to 2021	Phumaf Holdings (Pty) Ltd	Environmental Services for: • Full Environmental Impact Assessment for the proposed Unitas Park Ext 16 Mixed Use Development; • Basic Environmental Impact Assessment for the proposed Evaton West F Mixed Use Development; and • Basic Environmental Impact Assessment for the proposed Evaton West I Mixed Use Development.	Project Manager & Senior EAP
Renewable Energy Environmental Assessments			
2011	Farmsecure Carbon	Environmental Basic Assessment and Water Use License Application process for a proposed Biogas Waste to Energy project for a pig farm, Mooiriver, KwaZulu-Natal.	Project Manager & Senior EAP
2018 to 2019	GPIPD – Doornfontein Solar Farm (Pty) Ltd	Environmental Impact Assessment for the proposed 230 MW Doornfontein Photovoltaic Solar Energy Facility (PVSEF) located on Remainder of Farm 118, Doornfontein, Piketberg, Bergrivier Local Municipality, Western Cape.	Project Manager & Senior EAP
2018 to 2019	GPIPD – Kruispad Solar Farm (Pty) Ltd	Environmental Impact Assessment for the proposed 150 MW Kruispad Photovoltaic Solar Energy Facility (PVSEF) located on Remainder of Farm 120, Kruispad, Piketberg, Bergrivier Local Municipality, Western Cape.	Project Manager & Senior EAP
2018 to 2019	Brandvalley Wind Farm (Pty) Ltd	Part 2 Amendment Application for the authorised 140 MW Brandvalley Wind Energy Facility (WEF) located within the Karoo Hoogland, Witzenberg and Laingsburg Local Municipalities in the Northern and Western Cape Provinces.	Project Manager & Senior EAP
2018 to 2019	Copperton Wind Farm (Pty) Ltd	Non-Substantive Amendment Application to update the information of the Holder of the Environmental Authorisation & an EMPr Amendment Process to update the Airstrip Alignment and to provide an updated "outcomes based" EMPr for the Copperton Wind Energy Facility near Copperton in the Northern Cape.	Project Manager & Senior EAP
2018 to 2019	WKN Windcurrent SA (Pty) Ltd	Environmental Impact Assessment for the proposed 150 MW Haga Haga Wind Energy Facility (WEF) & Environmental Basic Assessment for the associated Haga Haga Overhead Powerline (OHPL) in Haga Haga, Great Kei Local Municipality, Eastern Cape.	Project Manager & Senior EAP
2021 to 2022	Cennergi Holdings	Environmental Impact Assessment and Water Use License Application (GA) process for the proposed 100MW Lephalale Solar Plant located mainly on the Farm Appelvlakte 448 within the Lephalale Local Municipality, Limpopo.	Project Manager & Senior EAP

Year	Client	Project Description	Role/ Responsibility
Mining Environmental Assessments			
2007	Chris Hani Municipality	Environmental Assessment and DME Licence Application on behalf of Chris Hani Municipality. Responsible for exemption application from Mining Permit and Environmental Management Programmes for 17 borrow pits in Middelburg, Eastern Cape.	Project Manager & Senior EAP
2010	Samancor Chrome Limited	The Lwala Greenfields Mine and Smelter EIA and EMP. Responsible for the Environmental impact assessment and technical investigations for the waste management issues for the proposed development of a new chrome smelter project in the Steelpoort area, Limpopo.	Project Manager & Senior EAP
2011	Xtrata Alloys	Xtrata Alloys Western Mines PSV application for authorization in terms of the MPRDA. Responsible for the undertaking of the EIA and compilation of the amended EMPr and technical environmental investigations for the proposed development of an open cast mine in Rustenburg, North West.	Project Manager & Senior EAP
2019 to 2021	Harmony Gold	Environmental Assessment process to obtain environmental authorisation for the proposed expansion of the existing Kareerand Tailings Storage Facility, Dr Kenneth Kaunda District Municipality, North-West Province.	Project Manager & Senior EAP
2019 to 2021	Zululand Anthracite Colliery	Environmental Basic Assessment for the proposed New Mngeni Adit & Associated Infrastructure, Mandlakazi Traditional Authority, KwaZulu-Natal.	Project Manager & Senior EAP
2021 to 2022	Sibanye-Stillwater	Part 2 Amendment Application for the approved Burnstone Gold Mine EA/EMPr located near Balfour within the Dipalaseng Local Municipality, Mpumalanga.	Project Manager & Senior EAP
2021 to 2022	Exxaro Resources	Section 34 EMPr Amendment Application for the approved Grootegeluk Mine EMPr located near Lephalale within the Lephalale Local Municipality, Limpopo.	Project Manager & Senior EAP
2021 to 2022	Booysendal Northam Platinum	Part 2 Amendment Applications for the Booysendal Mine located near Lydenburg, across both Mpumalanga and Limpopo provices: • Booysendal North Mine: New Emergency Escape Portal and two new Ventilation Shafts and associated Infrastructure; and • Booysendal South Mine: New Ventilation Shafts and associated infrastructure.	Project Manager & Senior EAP
2022 to 2023	Booysendal Northam Platinum	Integrated Environmental Authorisation Application for the Booysendal South Phase III Expansion, Lydenburg, Mpumalanga: • Booysendal South Tailings Storage Facility Expansion; • Booysendal South Run of Mine Stockyard Stockpile Expansion; and • Booysendal South New Merensky Plant.	Project Manager & Senior EAP
2022 to 2023	Kangra Coal	Integrated Environmental Authorisation Application for the establishment of a Co-Disposal Discard Facility and Wastewater Treatment Plant at the Maquasa East Operations, Piet Retief, Mpumalanga.	Project Manager & Senior EAP
2023	Kangra Coal	Integrated Environmental Authorisation Application for the Umgala/Knights Hill Mining Application, Utrecht, KwaZulu-Natal.	Project Manager & Senior EAP

Year	Client	Project Description	Role/ Responsibility
Waste Management Environmental Assessments			
2003	Assmang Chrome Machadodorp	Environmental Impact Assessment for the permitting of the H:H Hazardous Waste Disposal Facility at Assmang Chrome, Machadodorp.	Senior EAP
2004	Emfuleni Local Municipality	Environmental Impact Assessment for the closure of the Zuurfontein Landfill site for the Emfuleni Local Municipality, Sedibeng, Gauteng	Senior EAP
2004	Ekurhuleni Municipality	Environmental Impact Assessment for the closure of the Sebenza Landfill Site for the Ekurhuleni Municipality, Gauteng.	Senior EAP
2004	Tzaneen Local Municipality	Application for authorisation and EIA for the permitting of an existing solid waste disposal site for the Tzaneen Local Municipality, Mpumalanga.	Senior EAP
2006	Samancor Chrome Middelburg	Environmental Basic Assessment for the permitting of the existing Slag Waste Disposal facility for Samancor Chrome Middelburg, Mpumalanga.	Senior EAP
2006	Samancor Chrome Ferrometals	Environmental Basic Assessment for the permitting of the existing Slag Waste Disposal facility for Samancor Chrome Ferrometals Witbank, Mpumalanga.	Senior EAP
2007	Steve Tshwete Municipality	Environmental Impact Assessments for four Solid waste Transfer Stations for the Steve Tshwete Municipality, Mpumalanga.	Senior EAP
2008	Assmang Chrome Machadodorp	Environmental Impact Assessment for the expansion of the existing Slag Waste Disposal Facility at Assmang Chrome. Responsible for the EIA application for authorization for the proposed expansion project in Machadodorp, Mpumalanga.	Project Manager & Senior EAP:
2010	ArcelorMittal	ArcelorMittal BOF Slag Disposal site licensing of new site and closure of old site, Newcastle, KwaZulu-Natal.	Project Manager & Senior EAP:
2010	Lekwa Municipality	Waste Management License Application for authorization and the conducting of an EIA and technical environmental investigation for the proposed development of two landfill sites for the Lekwa Municipality, Mpumalanga.	Project Manager & Senior EAP:
2015 to 2017	Umgungundlovu Municipality	Advanced Solid Waste Management Project for Umgundgundlovu Municipality for proposed Materials Recovery Facilities located in various Local Municipalities, Umgungundlovu Municipality, KwaZulu-Natal.	Project Manager & Senior EAP:
2019 to 2022	Buffalo Coal	Magdalena Colliery Waste Management License Application, Dundee, KwaZulu-Natal.	Project Manager & Senior EAP:
Water and Wastewater Environmental Assessments			
2004	Msukaligwa Municipality	Environmental Impact Assessment for the installation of a water reticulation system at Nganga for the Msukaligwa Municipality, Mpumalanga.	Senior EAP
2006 to 2010	eThekwini Municipality: Water and Sanitation	Proposed upgrading of the WWTW capacity in the Northern Areas of the eThekwini Municipality. Responsible for EIA application for authorization, technical environmental investigations, and waste management license application for the proposed expansion of the WWT capacity in Northern eThekwini, KwaZulu-Natal.	Project Manager & Senior EAP

Year	Client	Project Description	Role/ Responsibility
2008	Johannesburg Water	Environmental Management Services for Johannesburg Water: Environmental Impact Assessment (Exemption) for various individual projects related to the upgrading of the Bryanston Water Mains, Gauteng.	Project Manager & Senior EAP
2014 to 2017	eThekwini Municipality: Water and Sanitation	Environmental Basic Assessment and Water Use License Application for the Northern Aqueduct Water Augmentation Project (Phase 5), Durban, KwaZulu-Natal.	Project Manager & Senior EAP
Electrical and Linear Environmental Assessments			
2005	Magallies Water	Application for (exemption) authorisation on behalf of Magallies Water for the installation of the Rising Main from the Roodeplaat Waterworks to the Wallmannsthal Reservoir, in Wallmannsthall, Gauteng.	Senior EAP
2010	Moloto Rail Corridor Development	EIA for the Moloto Rail Corridor Development. Responsible for the EIA application for authorization and technical environmental investigations for the proposed Moloto Rail Corridor Development, Moloto, Gauteng.	Project Manager & Senior EAP
2010	ESKOM	Environmental Basic Assessment of for the ESKOM Honingklip 88kV & ESKOM Randjiesfontein 88kV overhead line and Sub-Stations, Johannesburg, Gauteng.	Project Manager & Senior EAP
2010	ESKOM	Environmental Basic Assessment of for the ESKOM Ubertas Strategic Servitude Sub-Station, Johannesburg, Gauteng	Project Manager & Senior EAP
2014 to 2017	Msunduzi Municipality	Environmental Impact Assessment for the proposed Msunduzi IRPTN project, Pietermaritzburg, KwaZulu-Natal	Project Manager & Senior EAP
Environmental and Waste Management Compliance Monitoring and Auditing			
2005 to 2009	Sedibeng District Municipality	Auditing of Zuurfontein and Boitshepi Landfill sites for the Sedibeng District Municipality, Gauteng.	Part of Audit Team
2006 to 2009	ABSA DevCO	Environmental Compliance monitoring in accordance with relevant authorisation conditions and environmental management plans for the Amberfield Development on the farm Brakfontein 399 JR, Centurion, Gauteng.	Project Manager & Environmental Control Officer (ECO)
2007 to 2009	ABSA DevCO	Environmental Compliance monitoring in accordance with relevant authorisation conditions and environmental management plans for the Zambezi Estate Development, Montana, Gauteng.	Project Manager & ECO
2008 to 2009	Steve Tshwete Municipality	Auditing of Middelburg Landfill Site for the Steve Tshwete Municipality, Mpumalanga.	Part of Audit Team
2008 to 2009	ABSA DevCO	Environmental Compliance monitoring in accordance with relevant authorisation conditions and environmental management plans for the Cedar Creek Development, Fourways, Gauteng.	Project Manager & ECO
2017 to 2018	Dube TradePort	Environmental Compliance monitoring in accordance with relevant authorisation conditions and environmental management plans for the construction of TradeZone 2, Dube TradePort, La Mercy, KwaZulu-Natal.	Project Manager & ECO
2017	Richards Bay Minerals	Environmental Legal Compliance Audit to determine the level of compliance of Richards Bay	Project Manager &

Year	Client	Project Description	Role/ Responsibility
		Minerals' to their various mining, water and waste licenses and environmental authorisations and permits, Richards Bay, KwaZulu-Natal.	Environmental Auditor
2017 to 2018	eThekwini Municipality	Environmental Compliance monitoring in accordance with relevant authorisation conditions and environmental management plans for the construction of the Northern Aqueduct Phase 5, Durban, KwaZulu-Natal.	Project Manager & ECO
2019	Buffalo Coal	Annual EMPr and WUL audits for Coalfields, Aviemore and Magdalena Operations, Dundee, KwaZulu-Natal.	Project Manager & Lead Auditor
2020	Buffalo Coal	Annual EMPr and WUL audits for Coalfields, Aviemore and Magdalena Operations, Dundee, KwaZulu-Natal.	Project Manager & Lead Auditor
2020	Samancor Eastern Chrome Mines	Annual Performance Assessment Audits for the following mines in Limpopo: • Doornbosch, Steelpoort and Montrose Mines; • Quartz Mine; • Lwala Mine; • Lannex Mine; • Spitskop Mine; and • Tweefontein Mine.	Project Manager & Technical Review
2020	ESKOM	ESKOM Biennial PCB Phase-out Compliance Audit, various sites within South Africa.	Project Manager & Lead Auditor
2020	ESKOM	Majuba Power Station Legal Compliance Audit, Volksrust, Mpumalanga.	Project Manager & Lead Auditor
2021	Zululand Anthracite Colliery	Annual IWUL Audit for 2020, Mandlakazi Traditional Authority, KwaZulu-Natal	Project Manager & Technical Review
2021	ESKOM	Kendal Power Station Legal Compliance Audit, eMalahleni Local Municipality, Mpumalanga.	Project Manager & Lead Auditor
2021	Coalition Trading	External Compliance Audit for the Humberdale Landfill Site, in terms of the Waste Management Permit, KwaZulu-Natal	Project Manager & Auditor
2021	Tronox KZN Sands (Pty) Ltd	NEM: WA Norms and Standards External Waste Compliance Audit for the Tronox Central Processing Complex located in Empangeni, KwaZulu-Natal	Project Manager & Lead Auditor
Integrated Water Use License Applications			
2010	FOSKOR	Integrated Water Use License Application for a new storage dam for FOSKOR, Richards Bay, KwaZulu-Natal.	Part of Project Team
2014 to 2015	SANRAL	Integrated Water Use License Applications as required for the proposed SANRAL N2 Road upgrade from Mthunzini to Empangeni, KwaZulu-Natal.	Project Manager & Senior EAP
2014	eThekwini Municipality: Roads	Integrated Water Use License Application for the proposed Realignment of Inanda Arterial Road, Durban, KwaZulu-Natal.	Project Manager & Senior EAP

Year	Client	Project Description	Role/ Responsibility
2015 to 2017	SMEC (Umzimkulu Municipality)	Integrated Water Use License Application for the proposed Licensing of the existing Umzimkhulu Waste Water Treatment Works, Umzimkhulu, KwaZulu-Natal.	Project Manager & Senior EAP
2014 to 2016	eThekwini Municipality: Roads	Water Use License Application for the proposed eThekwini BRT Route C1A, Durban, KwaZulu-Natal.	Project Manager & Senior EAP
2019 to 2020	Zululand Anthracite Colliery	Integrated Water Use License Application for the new Mngeni Adit and associated infrastructure, Mandlakazi Traditional Authority, KwaZulu-Natal.	Project Manager & Senior EAP
2019 to 2021	South32 SA Coal Holdings	Integrated Water Use License Application for the Roy Point Mine, Newcastle, KwaZulu-Natal.	Project Manager & Senior EAP
2020 to 2022	Buffalo Coal	Integrated Water Use License Amendment Application for the Magdalena Colliery, Dundee, KwaZulu-Natal.	Project Manager & Senior EAP
2020 to 2022	Buffalo Coal	Integrated Water Use License Application for the Coalfields Processing Plant, Dundee, KwaZulu-Natal.	Project Manager & Senior EAP
Management and Master Plans			
2005	Livingstone Municipality	Development of the Livingstone Integrated Development Plan, Zambia.	Part of the Project Team
2008	Steve Tshwete Municipality	Development of an Integrated Waste Management Plan for the Steve Tshwete Municipality, Mpumalanga.	Part of the Project Team
2008	Kungwini Local Municipality	Development of an EMP (Framework) for Kungwini Local Municipality, Mpumalanga.	Part of the Project Team
2010	KZN Department of Public Works – Southern Region	Compilation of an Environmental Management Plan for the Fort Napier sewage upgrading project, Pietermaritzburg, Kwa-Zulu Natal.	Project Manager & Senior EAP

DECLARATION

I, ___Gerda Bothma_____ hereby declare that the details furnished above are true and correct to the best of my knowledge and belief and I undertake to inform you of any changes therein, immediately. In case any of the above information is found to be false or untrue or misleading or misrepresenting, I am aware that I may be held liable for it.

Signature:  Date: 21/02/2024

9222065

University of Pretoria

The Council and Senate hereby declare that
at a congregation of the University the degree

Baccalaureus Scientiae

with specialization in
Biological Sciences

with all the associated rights and privileges
was conferred on

GERDA DE LANGE

in terms of the Act and Statute of the University

On behalf of the Council and Senate
(Sgd) P Smit
Vice-Chancellor and Principal

On behalf of the Faculty of
Science
(Sgd) N Sauer
Dean

(Sgd) CR de Beer
Registrar

Date of Conferment
8 December 1994

Certified a true translation of the original Certificate

Registrar
Signed at Pretoria on the third day of September, 2008

9222065

University of Pretoria

The Council and Senate hereby declare that
at a congregation of the University the degree

Baccalaureus Scientiae Honores

with specialization in
Microbiology

with all the associated rights and privileges
was conferred on

GERDA DE LANGE

in terms of the Act and Statute of the University

On behalf of the Council and Senate
(Sgd) P Smit
Vice-Chancellor and Principal

On behalf of the Faculty of Biological
and Agriculrural Sciences
(Sgd) J van Zyl
Dean

(Sgd) JA Boon
Registrar

Date of Conferment
27 March 1996

Certified a true translation of the original Certificate

Registrar
Signed at Pretoria on the third day of September, 2008

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Gerda Bothma

Registration Number: 117348

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Professional Natural Scientist)

Effective **15 November 2017** Expires **31 March 2024**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

Appendix B: Existing Environmental Authorisation

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447 · PRETORIA · 0001 · Fedsure Building · 315 Pretorius Street · PRETORIA
Tel (+ 27 12) 310 3911 · Fax (+ 2712) 322 2682

NEAS Reference: DEA/EIA/0001449/2012
DEA Reference: 14/12/16/3/3/3/58
Enquiries: Vincentia Phukubye
Telephone: 012-395-1780 Fax: 012-320-7539 **E-mail:** vphukubye@environment.gov.za

Mr Hethen Hira
Witwatersrand Consolidated Gold Resource Limited
PO Box 61147
MARSHALLTOWN
2107

Fax no: 011 838 3208

PER FACSIMILE / MAIL

Dear Mr Hira

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 2010: GN R.544, GN R.545 AND GN R.546: PROPOSED WITWATERSRAND CONSOLIDATED GOLD RESOURCES (WITS GOLD): SOFS PHASE 1 MINING OPERATION (DBM PROJECT) WITHIN LEJWELEPUTSWA DISTRICT MUNICIPALITY, THE FREE STATE PROVINCE

With reference to the above application, please be advised that the Department has decided to grant authorisation. The environmental authorisation (EA) and reasons for the decision are attached herewith.

Please note that waste listed activities that were applied for are no longer applicable to comply with transitional provision 8 of GN 921.

In terms of regulation 10(2) of the Environmental Impact Assessment Regulations, 2010 (the Regulations), you are instructed to notify all registered interested and affected parties, in writing and within 12 (twelve) days of the date of the EA, of the Department's decision in respect of your application as well as the provisions regarding the submission of appeals that are contained in the Regulations.

Your attention is drawn to Chapter 7 of the Regulations, which prescribes the appeal procedure to be followed. This procedure is summarised in the attached document. Kindly include a copy of this document with the letter of notification to interested and affected parties.

Should the applicant or any other party wish to appeal any aspect of the decision a notice of intention to appeal must be lodged by all prospective appellants with the Minister, within 20 days of the date of the EA, by means of one of the following methods:

By facsimile: 0123207561;
By post: Private Bag X447,
Pretoria, 0001; or
By hand: 2nd Floor, Fedsure Building, North Tower,
Cnr. Lilian Ngoyi (Van der Walt) and Pretorius Streets,
Pretoria.

If the applicant wishes to lodge an appeal, it must also serve a copy of the notice of intention to appeal on all registered interested and affected parties as well as a notice indicating where, and for what period, the appeal submission will be available for inspection, should you intend to submit an appeal.

Please include the Department *(Attention: Director: Integrated Environmental Authorisations)* in the list of interested and affected parties, notified through your notification letter to interested and affected parties, for record purposes.

Appeals must be submitted in writing to:

Mr Z Hassam Director: Appeals and Legal Review, of this Department at the above mentioned addresses or fax number. Mr Hassam can also be contacted at:

Tel: 012-310-3271
Email: AppealsDirectorate@environment.gov.za

The authorised activities shall not commence within twenty (20) days of the date of signature of the authorisation. Further, please note that the Minister may, on receipt of appeals against the authorisation or conditions thereof suspend the authorisation pending the outcome of the appeals procedure.

Yours faithfully

Mr Ishaam Abader
Deputy Director-General: Legal, Authorisations, Compliance & Enforcement
Department of Environmental Affairs
Date: 4/7/2014

CC:	Ms Renee Janse van Rensburg	EAP	Fax: 011 803 5745
	Mr T Zwane	Appeals Authority (DEA)	AppealsDirectorate@environment.gov.za

APPEALS PROCEDURE IN TERMS OF CHAPTER 7 OF THE NEMA EIA REGULATIONS, 2010 (THE REGULATIONS) AS PER GN R. 543 OF 2010 TO BE FOLLOWED BY THE APPLICANT AND INTERESTED AND AFFECTED PARTIES UPON RECEIPT OF NOTIFICATION OF AN ENVIRONMENTAL AUTHORISATION (EA)

APPLICANT	INTERESTED AND AFFECTED PARTIES (IAPs)
1. Receive EA from the relevant Competent Authority (the Department of Environmental Affairs [DEA])	1. Receive EA from Applicant/Consultant
2. Within 12 days of date of the EA notify all IAPs of the EA and draw their attention to their right to appeal against the EA in terms of Chapter 7 of the Regulations.	2. N/A
3. If you want to appeal against the EA, submit a notice of intention to appeal within 20 days of the date of the EA. with the Minister of Water and Environmental Affairs (the Minister).	3. If you want to appeal against the EA, submit a notice of intention to appeal within 20 days of the date of the EA. with the Minister of Water and Environmental Affairs (the Minister).
4. After having submitted your notice of intention to appeal to the Minister, provide each registered IAP with a copy of the notice of intention to appeal within 10 days of lodging the notice	4. After having submitted your notice of intention to appeal to the Minister, provide the applicant with a copy of the notice of intention to appeal within 10 days of lodging the notice
5. The Applicant must also serve on each IAP: • a notice indicating where and for what period the appeal submission will be available for inspection.	5. Appellant must also serve on the Applicant within 10 days of lodging the notice, • a notice indicating where and for what period the appeal submission will be available for inspection by the applicant.
6. The appeal must be submitted in writing to the Minister within 30 days after the lapsing of the period of 20 days provided for the lodging of the notice of intention to appeal.	6. The appeal must be submitted to the Minister within 30 days after the lapsing of the period of 20 days provided for the lodging of the notice of intention to appeal.
7. Any IAP who received a notice of intention to appeal may submit a responding statement to that appeal to the Minister within 30 days from the date that the appeal submission was lodged with the Minister.	7. An Applicant who received notice of intention to may submit a responding statement to the appeal to the Minister within 30 days from the date that the appeal submission was lodged with the Minister.

NOTES:

1. **An appeal against a decision must be lodged with:-**
   a) the Minister of Water and Environmental Affairs if the decision was issued by the Director- General of the Department of Environmental Affairs (or another official) acting in his/ her capacity as the delegated Competent Authority;
   b) the Minister of Justice and Constitutional Development if the applicant is the Department of Water Affairs and the decision was issued by the Director- General of the Department of Environmental Affairs (or another official) acting in his/ her capacity as the delegated Competent Authority;

2. **An appeal lodged with:-**
   a) the Minister of Water and Environmental Affairs must be submitted to the Department of Environmental Affairs;
   b) the Minister of Justice and Constitutional Development must be submitted to the Department of Environmental Affairs;

3. **An appeal must be:-**
   a) submitted in writing;
   b) accompanied by:
   - a statement setting out the grounds of appeal;
   - supporting documentation which is referred to in the appeal; and
   - a statement that the appellant has complied with regulation 62 (2) or (3) together with copies of the notices referred to in regulation 62.

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environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

In terms of regulation 36 of the Environmental Impact Assessment Regulations, 2010

Witwatersrand Consolidated Gold Resources (Wits Gold): SOFS phase 1 mining operation (DBM project) in the Free State Province.

Lejweleputswa District Municipality

Authorisation register number:	14/12/16/3/3/3/58
NEAS reference number:	DEA/EIA/0001449/2012
Last amended:	First issue
Holder of authorisation:	Witwatersrand Consolidated Gold Resource Limited
Location of activity:	Free State Province within Matjhabeng Local Municipality and Masilonyana Local Municipality

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this environmental authorisation, that the applicant should be authorised to undertake the activities specified below.

Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the EIA regulations.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations, 2010 the Department hereby authorises –

WITWATERSRAND CONSOLIDATED GOLD RESOURCE LIMITED

with the following contact details –

Mr Hethen Hira
Witwatersrand Consolidated Gold Resource Limited
PO Box 61147
MARSHALLTOWN
2107

Tel: (011) 832 1749
Fax: (011) 838 3208
E-mail: hethenh@witsgold.com

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to undertake the following activities (hereafter referred to as "the activity") indicated in Listing Notices 1, 2 or 3 (GN R. 544, 545 & 546):

Listed activities	Activity/Project description
GN R. 544 Item 2 The construction of facilities or infrastructure for the storage of ore or coal that requires an atmospheric emissions license in terms of the National Environmental Management: Air Quality Act (Act No. 39 of 2004).	Combustion installations not used primarily for steam raising or electricity generation – o The eluted carbon is reactivated in a reactivation kiln at a temperature of 750 °C to drive off any organics which have adsorbed on to the carbon. The reactivated carbon is then acid washed with diluted hydrochloric acid to remove adsorbed lime. The acid washed carbon is then returned to the CIL tanks. o GN R248 in GG 33064 of 21 March 2010 The precious and base metal production and refining. o Precious Metal Production: Gold. Precious Metal Refining: All core gold produced in the plant will be sold to Rand Refinery in South Africa for refining. o GN R248 in GG 33064 of 21 March 2010
GN R. 544 Item 9: The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water: (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more,	o Storm water drains. o Water for/from underground. o Water to be utilised by the plant.
GN R. 544 Item 10 (i) The construction of facilities or infrastructure for the transmission and distribution of electricity- i. Outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.	The mine has requested a bulk supply from Eskom at 11 kV, the mine reticulation will be performed at this level. The proposal is for Eskom to construct a 132kV line from their Thesues substation to the mine site, using existing transmission line servitude. The 35 MVA, 132/11kV substation will be constructed on the mine site.
GN R. 544 Item 11	Proposed infrastructure may be within

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Listed activities	Activity/Project description
The construction of: i. canals; ii. channels; iii. bridges; iv. dams; v. weirs; vi. bulk storm water outlet structures; vii. infrastructure or structures covering 50 square metres or more, where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	32 metres of a wetland.
GN R. 544 Item 12 The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of activity 19 of Notice 545 of 2010.	Pollution control storage dam 26 Ml capacity.
GN R. 544 Item 13 The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.	Explosive cartridge and detonator magazine, fuel storage bay, gas and chemical store. Hydrocarbons
GN R. 544 Item 22 The construction of a road, outside urban areas. i. with a reserve wider than 13,5 metres or; ii. where no reserve exists where the road is wider than 8 metres; or iii. for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Notice 545 of 2010.	Main Access road into the mine property. Depends on the final plan of infrastructure placement. Existing roads to be upgraded for use and maintained in good standing.
GN R. 544 Item 47 The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre- i. where the existing reserve is wider than 13,5 meters; or ii. where no reserve exists, where the existing road is wider than 8 metres, iii. excluding inside urban areas	Existing roads to be upgraded for use and maintained in good standing.
GN R. 545 Item 2 The construction of facilities or infrastructure for nuclear reaction including energy generation, the production, enrichment, processing, reprocessing, storage or disposal of nuclear fuels, radioactive products and nuclear and radioactive waste.	Uranium process -It is not planned to process uranium at this stage. Uranium by-product will be deposited with the tailings as per current practice in surrounding operations.

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Listed activities	Activity/Project description
GN R. 545 Item 3 The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.	Explosives Magazine
GN R. 545 Item 5 The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice 544 of 2010 or included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) in which case that Act will apply.	Clarity required whether the TSF constitutes being a lagoon. However, the TSF facility already exists and falls under a mine rehabilitation liability, the relevant portion of which will be taken over by Wits Gold The act says a lagoon 'means the containment of waste in excavations and includes evaporation dams, earth cells sewage treatment facilities and sludge farms"
GN R. 545 Item 19 The construction of a dam, where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more.	Pollution Control Dams.
GN R.718 Category B Item 9 The disposal of any quantity of hazardous waste to land,	Tailings Storage Facility (TSF)

the Environmental Impact Report (EIR) dated January 2014 at:

Welgelegen 382,RE 2	Latitude	Longitude
North East	26° 52' 36.651E	26° 52' 36.651S
South East	26° 52' 44.690E	26° 52' 44.690S
North West	26° 51' 38.622E	26° 51' 38.622S
South West	26° 51' 48.662E	26° 51' 48.662S

- for construct Southern Free State (SOFS) Mining Operation and associated infrastructure near Virginia, Welkom and Theunissen in the Free State Province hereafter referred to as "the property".

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Conditions of this Environmental Authorisation

Scope of authorisation

1. Construction of Southern Free State (SOFS) Mining Operation and associated infrastructure near Virginia, Welkom and Theunissen in the Free State Province with coordinates indicated above is hereby approved.
2. Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.
3. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.
4. The activities authorised may only be carried out at the property as described above.
5. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.
6. This activity must commence within a period of five years from the date of issue of this authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.
7. Commencement with one activity listed in terms of this authorisation constitutes commencement of all authorised activities.
8. The holder of an environmental authorisation must notify the competent authority of any alienation, transfer and change of ownership rights in the property on which the activity is to take place.

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Notification of authorisation and right to appeal

9. The holder of the authorisation must notify every registered interested and affected party, in writing and within 12 (twelve) calendar days of the date of this environmental authorisation, of the decision to authorise the activity.
10. The notification referred to must –
    10.1. specify the date on which the authorisation was issued;
    10.2. inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the Environmental Impact Assessment Regulations, 2010;
    10.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and
    10.4. give the reasons of the competent authority for the decision.
11. The holder of the authorisation must publish a notice –
    11.1. informing interested and affected parties of the decision;
    11.2. informing interested and affected parties where the decision can be accessed; and
    11.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in the newspaper(s) contemplated and used in terms of regulation 54(2)(c) and (d) and which newspaper was used for the placing of advertisements as part of the public participation process.

Management of the activity

12. The Environmental Management Programme (EMPr) submitted as part of the Application for EA is hereby approved. This EMPr must be implemented and adhered to.

Monitoring

13. The applicant must appoint a suitably experienced Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this authorisation are implemented and to ensure compliance with the provisions of the EMPr.
    13.1. The ECO must be appointed before commencement of any authorised activities.
    13.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.

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13.3. The ECO must keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.

13.4. The ECO must remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.

Recording and reporting to the Department

14. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this authorisation, must be submitted to the *Director: Compliance Monitoring* at the Department.
15. The holder of the authorisation must submit an environmental audit report to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and within 30 days of completion of rehabilitation activities.
16. The environmental audit report must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the EMPr.
17. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.

Commencement of the activity

18. The authorised activity shall not commence within twenty (20) days of the date of signature of the authorisation.
19. An appeal under section 43 of the National Environmental Management Act (NEMA), Act 107 of 1998 (as amended), does not suspend an environmental authorisation or exemption, or any provisions or conditions attached thereto, or any directive, unless the Minister, MEC or delegated organ of state directs otherwise.
20. Should you be notified by the Minister of a suspension of the authorisation pending appeal procedures, you may not commence with the activity until such time that the Minister allows you to commence with such an activity in writing.

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Notification to authorities

21. Fourteen (14) days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number. This notification period may coincide with the notice of intent to appeal period.

Operation of the activity

22. Fourteen (14) days written notice must be given to the Department that the activity operational phase will commence.

Site closure and decommissioning

23. Should the activity ever cease or become redundant, the applicant shall undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.

Specific conditions

24. No activities will be allowed to encroach into a water resource without a water use authorisation being in place from the Department of Water Affairs.
25. A permit must be obtained from the relevant nature conservation agency for the removal or destruction of indigenous protected and endangered plant and animal species.
26. Copies of permits in respect of 25 above required must be submitted to the Department for record keeping.
27. No exotic plants may be used for rehabilitation purposes. Only indigenous plants of the area may be utilised.
28. The applicant is required to inform the Department of Forestry and this Department should the removal of protected species, medicinal plants and "data deficient" plant species be required.
29. Vegetation clearing must be kept to an absolute minimum. Mitigation measures must be implemented to reduce the risk of erosion and the invasion of alien species.

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30. Construction must include appropriate design measures that allow surface and subsurface movement of water along drainage lines so as not to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of storm water run-off.
31. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling, re-use and disposal where appropriate. Any solid waste shall be disposed of at a landfill licensed in terms of section 20 (b) of the National Environment Management Waste Act, 2008 (Act 59 of 2008).

General

32. A copy of this authorisation and the approved EMPr must be kept at the property where the activity/ will be undertaken. The authorisation and approved EMPr must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.
33. The holder of the authorisation must notify both the *Director: Integrated Environmental Authorisations* and the *Director: Compliance Monitoring* at the Department, in writing and within 48 (forty eight) hours, if any condition of this authorisation cannot be or is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.
34. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Date of environmental authorisation: 4 JULY 2014

Mr Ishaam Abader
Deputy Director-General: Legal, Authorisations, Compliance and Enforcement
Department of Environmental Affairs

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Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

a) The information contained in the EIR dated January 2014;
b) The comments received from organs of state and interested and affected parties as included in the EIR dated January 2014;
c) Mitigation measures as proposed in the EIR dated January 2014 and the EMPr;
d) The information contained in the specialist studies contained within the EIR; and
e) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act 107 of 1998).

2. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

a) The findings of all the specialist studies conducted and their recommended mitigation measures.
b) The EIR dated January 2014 identified all legislation and guidelines that have been considered in the preparation of the EIR dated January 2014.
c) The methodology used in assessing the potential impacts identified in the EIR dated January 2014 and the specialist studies have been adequately indicated.
d) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2010 for public involvement.

3. Findings

After consideration of the information and factors listed above, the Department made the following findings -

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a) The identification and assessment of impacts are detailed in the EIR dated January 2014 and sufficient assessment of the key identified issues and impacts have been completed.

b) The procedure followed for impact assessment is adequate for the decision-making process.

c) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.

d) The information contained in the EIR dated January 2014 is accurate and credible.

e) EMPr measures for the pre-construction, construction and rehabilitation phases of the development were proposed and included in the EIR and will be implemented to manage the identified environmental impacts during the construction process.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the proposed activity can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.

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PRELIMINARY SITE SENSITIVITY VERIFICATION FOR THE PROPOSED AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION FOR THE SOUTHERN ORANGE FREE STATE (SOFS) PROJECT, FREE STATE PROVINCE

Version - Final

July 2024

GCS Project Number: 23-1204

Client Reference: FS30/5/1/2/2/10005MR

GCS (Pty) Ltd. **Reg No:** 2004/000765/07 Est. 1987
Offices: **Johannesburg** (Head Office) | Durban | Gaborone | Lusaka | Maseru | Windhoek | Ostrava
Directors: AC Johnstone (CEO) | W Sherriff

PRELIMINARY SITE SENSITIVITY VERIFICATION FOR THE PROPOSED AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION FOR THE SOUTHERN ORANGE FREE STATE (SOFS) PROJECT, FREE STATE PROVINCE

Version – Draft

GCS Reference: 23-1204

July 2024

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	Name	**Signature**	**Date**
Author	Rona Schröder		21 July 2024

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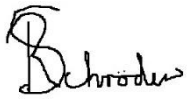
Specialist declaration

I, Rona Schröder, in my capacity as a specialist consultant, hereby declare that I:

- Act as an independent consultant;
- Do not have any financial interest in the undertaking of the activity, other than remuneration for the work performed in terms of the National Environmental Management Act (Act No. 107 of 1998);
- Have and will not have vested interest in the proposed activity proceeding;
- Have no, and will not engage in, conflicting interests in the undertaking of the activity;
- Undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the National Environmental Management Act (Act No. 107 of 1998);
- As a registered member of the South African Council for Natural Scientific Professions and the Environmental Assessment Practitioners Association of South Africa (EAPASA), I will undertake my profession in accordance with the Code of Conduct of the Council, as well as any other societies to which I am a member;
- Based on information provided to me by the project proponent and in addition to information obtained during the course of this study, have presented the results and conclusion within the associated document to the best of my professional ability; and
- Reserve the right to modify aspects pertaining to the present investigation should additional information become available through ongoing research and/or further work in this field.



Rona Schröder (Pr.Sci.Nat)(EAPASA) Date: 21 July 2024

SACNASP reg. no. 120605
EAPASA Reg. No. 2020/1149

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1 INTRODUCTION

GCS Environment South Africa (Pty) Ltd (GCS) has been appointed by Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (Sibanye Stillwater Limited holds 100% in Sibanye Gold Proprietary Limited and Sibanye Gold Proprietary Limited holds 100% in Wits Gold) to conduct a Site Sensitivity Verification Screening Assessment as part of the application for environmental authorisation amendment for the proposed extension of the Southern Orange Free State Mining Right Area near Virginia in the Free State Province.

The assessment will focus on the environmental features associated with the site and how these relate to possible legislated authorisation processes in accordance with the National Environmental related legislation. And how the proposed activities would impact on the environmental themes.

2 BACKGROUND

Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (Sibanye Stillwater Limited holds 100% in Sibanye Gold Proprietary Limited and Sibanye Gold Proprietary Limited holds 100% in Wits Gold) is currently in possession of a Mining Right (FS30/5/1/2/2/10005MR). The Mining Right was issued for the DBM Project in April 2014. Subsequently the Mine has submitted a Section 102 Amendment Application to include additional properties into the Existing Mining Right (FS 30/5/1/2/2/10005 MR) on the 30th of November 2018 (Existing mining right area and proposed new area illustrated in Figure 2-1). The new Phase 2 Southern Orange Free State (SOFS) Project will consist of underground mining operations, with no planned surface infrastructure or other planned surface disturbances at this stage of the development.

The study site is approximately 1044ha in size and is located within the Virginia and Meloding area.

The extent of the study site is provided in Figure 2-2 with the corner point coordinates provided in Table 2-1.

Table 2-1: Corner point coordinates of the study site

Label	Latitude	Longitude
A	28° 8'54.90"S	26°50'48.32"E
B	28° 8'48.44"S	26°52'24.37"E
C	28° 8'11.94"S	26°53'14.92"E
D	28° 8'28.97"S	26°54'10.01"E
E	28° 9'19.18"S	26°53'29.45"E
F	28° 9'38.83"S	26°54'9.21"E
G	28°10'4.77"S	26°54'9.16"E
H	28° 9'49.93"S	26°52'33.62"E
I	28°10'7.18"S	26°52'36.31"E
J	28° 9'51.22"S	26°51'25.42"E
K	28° 9'18.52"S	26°51'47.96"E

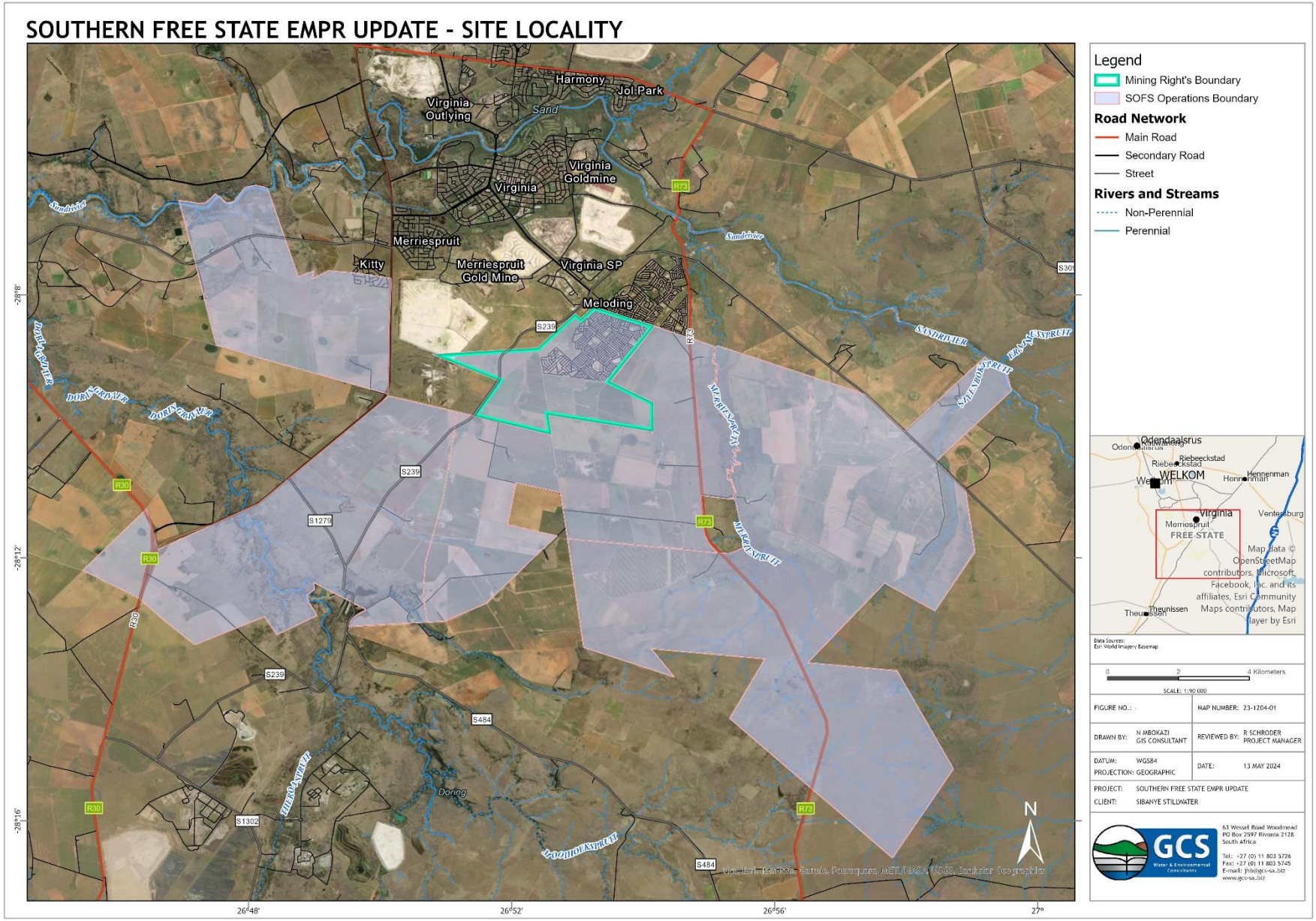

Figure 2-1: Location of the SOFS DBM Project. The area in blue is the new proposed properties to be included.

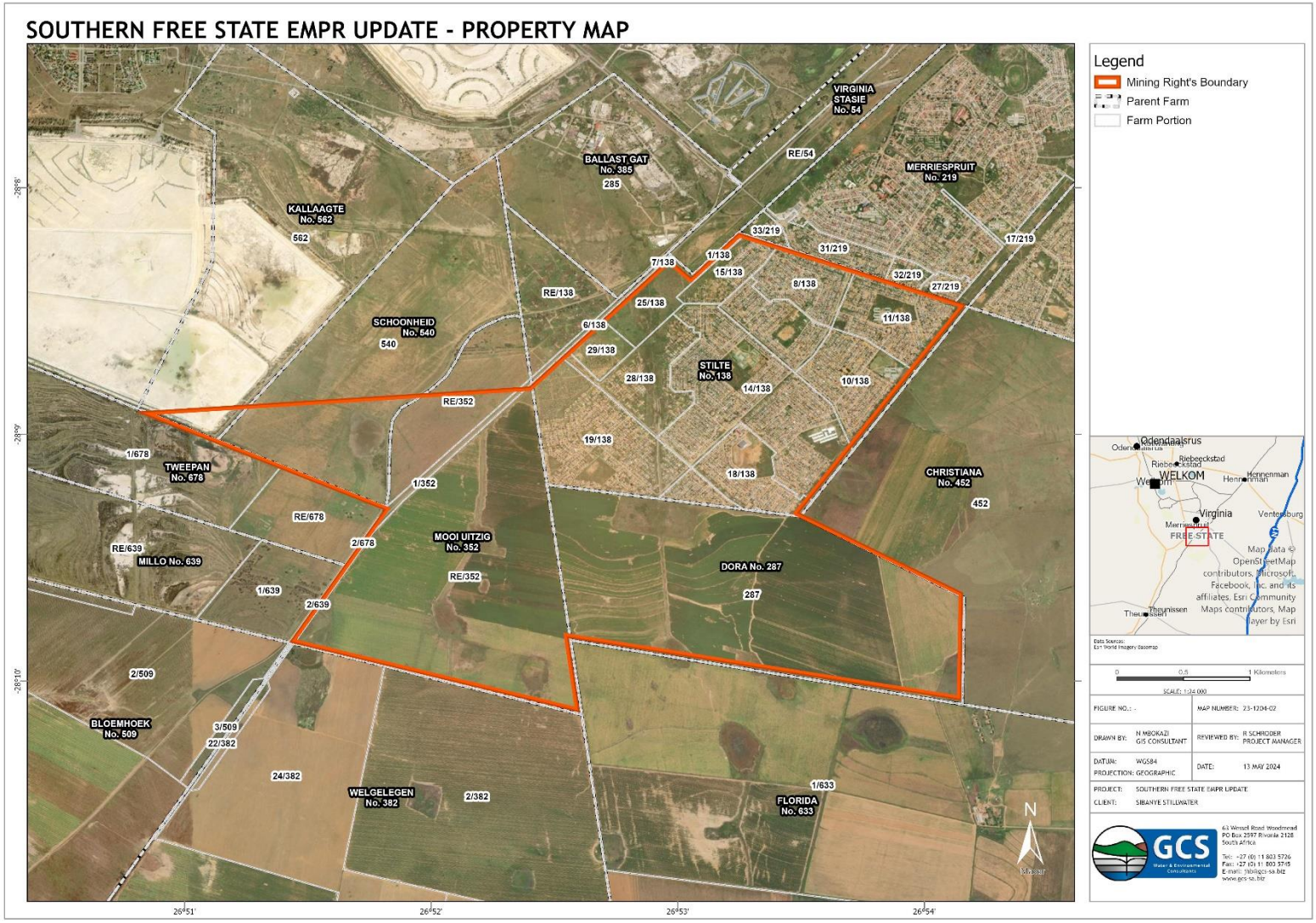

Figure 2-2: Footprint Area and properties for the Amendment Project.

3 SCOPE OF WORK

The Site Verification Assessment will make provision for the identification of any possible areas of environmental sensitivities within the property boundaries. The Screening Report as generated from the DFEE Screening Tool will be used to guide the possible sensitivities in the site area, and a verification of the existing site conditions and sensitivities was investigated.

In addition to the above, the assessment will make provision for an evaluation of the applicable South African environmental legislation and regulations. This will be done to determine the required authorisation(s) that will be required to enable the establishment of a power generation facility on the study site. The Legislation that will be considered in the assessment are as follows:

- National Environmental Management Act (Act No. 107 of 1998): Environmental Impact Assessment Regulations (2014), as amended;
- National Water Act (Act No. 36 of 1998), with a focus on Section 21 of the Act;
- National Environmental Management: Biodiversity Act (Act No. 10 of 2004); and
- National Environmental Management: Protected Areas Act (Act No. 57 of 2003).

The outcome of this legal assessment will provide a clear Permitting and Authorisation Framework for the project as well as an indicative programme and associated cost estimates.

4 METHODOLOGY

The findings of the assessment are based on a Desktop Assessment of available GIS databases to identify any possible environmentally sensitive features within the site or within the immediate vicinity of the site. These features were then used to plan the site visit to verify these areas and to identify any additional features that might require consideration.

The site visit was conducted on 8 May 2024 by Daluthando Sibanyoni and Andrew Johnstone of GCS Environment SA (Pty) Ltd.

5 ASSUMPTIONS AND KNOWLEDGE GAPS

The project entails the inclusion of properties that were omitted from the area into the existing Mining Right, The project planned at this stage will only be underground mining that extends from the existing mining right area with no planned surface disturbances or infrastructure.

Therefore any possible impacts that would occur on the surface would not apply to this project.

To ensure that water resources would not be affected a Hydrogeological Study will be done.

As the mining activities will be situated over 1000m underground, any surface wetlands would not be located within 500m of the activity.

The current land use for the properties to be included in the amendment consists of agricultural activities and residential areas. No indigenous vegetation or habitats remain within the project area.

6 DESKTOP FINDINGS

The desktop assessment considered the following databases:

- Information contained in the Department of Forestry Fisheries and Environment Online Screening Tool Report;
- Biodiversity databases available on the SANBI Website;
- 1 in 50 000 topographical map sheet for the area;
- Site photographs;
- Satellite maps of the area; and
- Previous specialist studies conducted around the Mining Area.

6.1 Department of Forestry Fisheries and Environment (DFFE) Online Screening Tool

The site sensitivities identified in the DFFE Online Screening Tool are provided in Table 6-1.

Table 6-1: Site sensitivities identified in the DFFE Online Screening Tool

Theme	Very high sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture theme		X		
Animal species theme			X	
Aquatic biodiversity theme	X			
Archaeological and cultural heritage theme				X
Civil aviation theme		X		
Defence theme				X
Palaeontology theme			X	
Plant species theme				X
Terrestrial biodiversity theme	X			

6.1.1 Specialist Studies

The findings of the DFFE Online Screening Tool provide and indication of the specialist studies that may need completion during an Application for Environmental Authorisation process. The following studies were identified in the DFFE Screening Report.

1. Agricultural Impact Assessment
2. Landscape/Visual Impact Assessment
3. Archaeological and Cultural Heritage Impact Assessment
4. Palaeontology Impact Assessment
5. Terrestrial Biodiversity Impact Assessment
6. Aquatic Biodiversity Impact Assessment
7. Hydrology Assessment
8. Noise Impact Assessment
9. Radioactivity Impact Assessment
10. Traffic Impact Assessment
11. Geotechnical Assessment
12. Climate Impact Assessment
13. Health Impact Assessment
14. Socio-Economic Assessment
15. Ambient Air Quality Impact Assessment
16. Seismicity Assessment
17. Plant Species Assessment
18. Animal Species Assessment

Table 6-2 below provides a summary of the identified themes and the specialist studies to be completed in support of each theme and Table 6-3 provides a summary of the identified specialist studies and how they will be addressed in the application process.

Table 6-2: Screening Report Themes and Specialist Studies

Themes	Sensitivity	Specialist Study to be undertaken/Motivation for excluding Theme
Agriculture Theme	High	There will be no surface infrastructure or disturbances that would affect the agricultural activities, as the mining operations will be over 1000m below the surface level.

Animal Species Theme	Medium	Due to the current land use for crop cultivation and other agricultural activities along with the rest of the area which is a residential area, animal species have been displaced from the project area.
Aquatic Biodiversity Theme	Very High	Wetland Assessment
Archaeological and Cultural Heritage Theme	Low	Desktop Heritage and Paleontological Impact Assessment.
Civil Aviation Theme	High	The mining activities would take place underground and would not affect any aviation activities.
Defence Theme	Low	The mining activities will take place below the surface with no infrastructure Therefore this project would not affect any defence related activities.
Palaeontology Theme	Medium	Desktop Heritage and Paleontological Impact Assessment.
Plant Species Theme	Low	There is no indigenous vegetation on the project area. The area has been transformed by agricultural activities and residences.
Terrestrial Biodiversity Theme	Very High	There is no indigenous vegetation on the project area. The area has been transformed by agricultural activities and residences.

Table 6-3: Screening Report Specialist Studies and how they will be addressed.

Specialist Studies Identified by DFFE Screening Tool	Motivation / Way Forward
Agricultural Impact Assessment	No study is required. There will be no disturbances on the surface that would affect any agricultural activities. The hydrogeological study also indicated that there will be no impact on the water resources. There would therefore be no impact on the surface land uses or the water resources for the surface activities.
Landscape/Visual Impact Assessment	No study is required as there will be surface disturbances as the project only consists of underground mining.
Archaeological and Cultural Heritage Impact Assessment	Heritage & Palaeontological Assessment
Palaeontology Impact Assessment	Heritage & Palaeontological Assessment
Terrestrial Biodiversity Impact Assessment	No study is required. The project area has been disturbed by agricultural activities. There is no natural terrestrial habitat and the activities will not affect the surface area.
Aquatic Biodiversity Impact Assessment	Wetland Assessment
Hydrology Assessment	Hydrogeological Study Assessment

Noise Impact Assessment	No study is required. The underground mining activities will not produce noise that would affect the surrounding receptors.
Radioactivity Impact Assessment	No study is required.
Traffic Impact Assessment	No study is required. There will be no traffic on the site. All activities will be underground.
Geotechnical Assessment	Not required at this stage of the project. Required only when mine planning starts.
Climate Impact Assessment	Climate Change Impact Baseline Assessment
Health Impact Assessment	No study is required. The underground mining activities will not pose a health risk.
Socio-Economic Assessment	The socio-economic study was done in support of the Mining Right Application which has been granted. This project is only to include additional properties and would not have any additional impacts.
Ambient Air Quality Impact Assessment	No study is required.
Seismicity Assessment	Not required at this stage of the planning. Will be done when the mine layout and block planning are done.
Plant Species Assessment	No study is required.
Animal Species Assessment	No study is required.

In summary, the following studies will be completed to assess the possible impacts of the project and address the proposed specialist studies as per the screening report recommendations:

- Wetland Assessment.
- Soil Surface Water and Groundwater Assessment.
- Climate Change Impact Baseline Assessment
- Heritage & Palaeontological Desktop Assessment.

7 SITE PHOTOGRAPHS

Figure 7-1 to Figure 7-3 provides photographic evidence of the current land use of the majority of the study area being used for agricultural activities and residences.

Figure 7-1: Agricultural activities are the main land -use taking place on the project area

Figure 7-2: Current land-use on site consists of agricultural activities and residential areas.

Figure 7-3: Start of the residential area within the proposed amendment project area.

8 CONCLUSION

The purpose of this assessment was to determine the based on the outcomes of the DFFE Screening tool and verifying on site which themes identified in the Screening Report is sensitive and would require specialist investigation to be done to determine the possible impacts. And to verify whether all the sensitivity rating as per the screening report is applicable based on the site conditions and findings.

Due to the fact that the amendment project to include the additional properties does not include any planned surface infrastructure or surface disturbances. Therefore, the majority of the possible impacts that would normally be associated with surface disturbances would not be impacted by this project.

APPENDIX A

SPECIALIST CURRICULUM VITAE

SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE ENVIRONMENTAL SENSITIVITY

EIA Reference number: N/A

Project name: Southern Orange Free State ("SOFS") EMPr Amendment

Project title: Southern Orange Free State ("SOFS") EMPr Amendment

Date screening report generated: 21/05/2024 15:51:15

Applicant: Witwatersrand Consolidated Gold Resources (Pty.) Ltd. ("Wits Gold") (wholly owned subsidiary of Sibanye Gold Limited t/a Sibanye-Stillwater)

Compiler: Rona Schröder

Compiler signature: .....

Application Category: Mining|Mining Right

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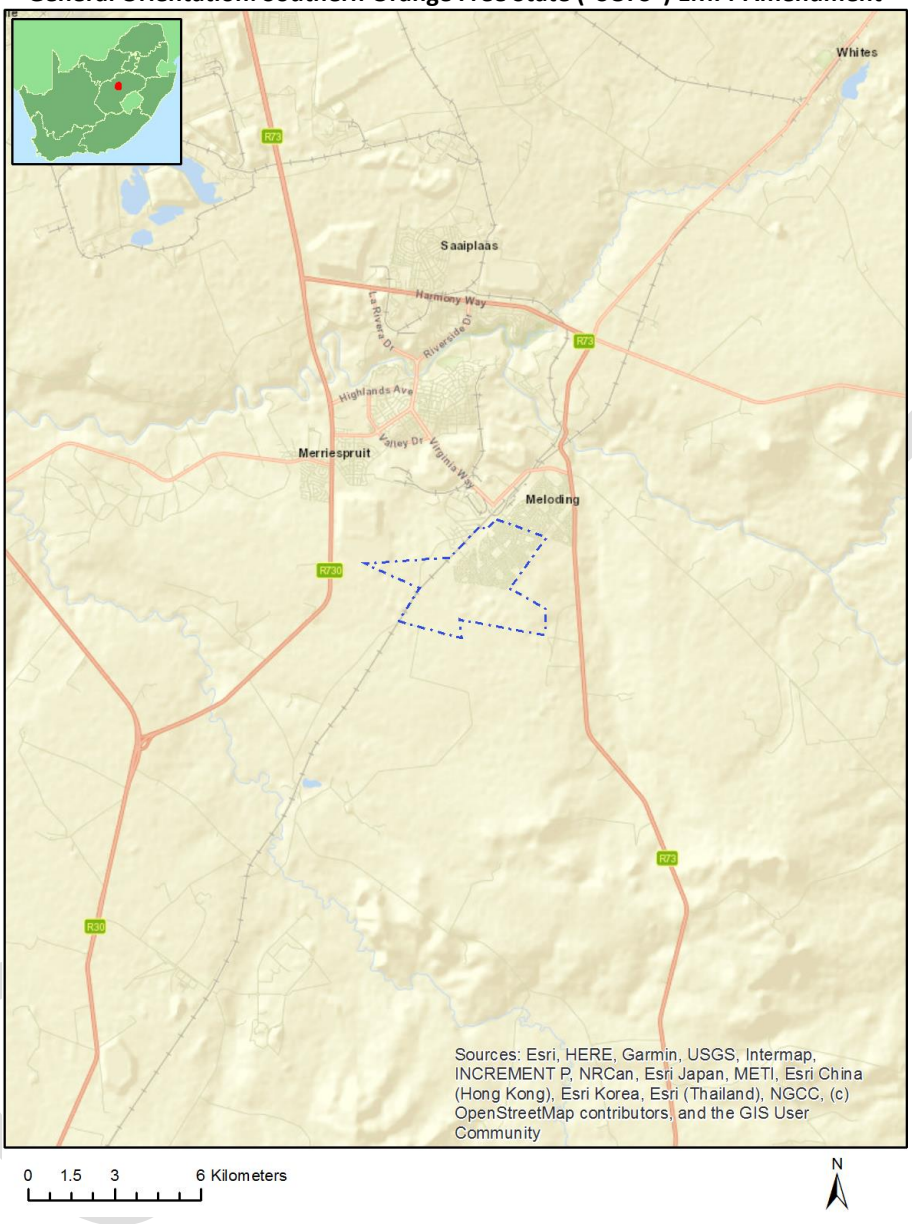
Proposed Project Location

Orientation map 1: General location

General Orientation: Southern Orange Free State ("SOFS") EMPr Amendment



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21/05/2024

Map of proposed site and relevant area(s)

Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	MELODING	4555	0	28°9'2.87S	26°53'32.56E	Erven
2	MELODING	12515	0	28°8'17.76S	26°53'18.74E	Erven
3	MELODING	12517	0	28°8'18.33S	26°53'18.13E	Erven
4	MELODING	12089	0	28°8'23.24S	26°53'44.93E	Erven
5	MELODING	12091	0	28°8'23.5S	26°53'45.76E	Erven
6	MELODING	12096	0	28°8'24.16S	26°53'47.82E	Erven
7	MELODING	12098	0	28°8'24.44S	26°53'48.65E	Erven
8	MELODING	12101	0	28°8'24.84S	26°53'49.88E	Erven
9	MELODING	6536	0	28°9'2.68S	26°52'59.25E	Erven
10	MELODING	6538	0	28°9'3.22S	26°52'59.89E	Erven
11	MELODING	6543	0	28°9'4.57S	26°53'1.47E	Erven
12	MELODING	6545	0	28°9'5.11S	26°53'2.11E	Erven
13	MELODING	4751	0	28°9'9.87S	26°53'32.83E	Erven
14	MELODING	4754	0	28°9'10.82S	26°53'32.07E	Erven
15	MELODING	4761	0	28°9'11.07S	26°53'30.96E	Erven
16	MELODING	4763	0	28°9'10.44S	26°53'31.48E	Erven
17	MELODING	3758	0	28°8'51.26S	26°53'46.83E	Erven
18	MELODING	4342	0	28°8'56.58S	26°53'21.82E	Erven
19	MELODING	4349	0	28°8'57.25S	26°53'20.07E	Erven
20	MELODING	12796	0	28°9'11.49S	26°53'14.96E	Erven
21	MELODING	12798	0	28°9'12.03S	26°53'15.6E	Erven
22	MELODING	12518	0	28°8'18.61S	26°53'17.82E	Erven
23	MELODING	12969	0	28°9'18.17S	26°53'26.18E	Erven
24	MELODING	12984	0	28°9'15.57S	26°53'27.36E	Erven
25	MELODING	12986	0	28°9'14.63S	26°53'26.74E	Erven
26	MELODING	12102	0	28°8'24.99S	26°53'50.34E	Erven
27	MELODING	12104	0	28°8'25.45S	26°53'49.63E	Erven
28	MELODING	6531	0	28°9'1.32S	26°52'57.67E	Erven

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29	MELODING	6533	0	28°9'1.87S	26°52'58.3E	Erven
30	MELODING	5661	0	28°8'46.43S	26°53'8.7E	Erven
31	MELODING	5664	0	28°8'47.71S	26°53'8.59E	Erven
32	MELODING	6106	0	28°8'31.87S	26°53'1.84E	Erven
33	MELODING	6108	0	28°8'31.3S	26°53'2.45E	Erven
34	MELODING	4766	0	28°9'9.49S	26°53'32.24E	Erven
35	MELODING	4770	0	28°9'8.22S	26°53'33.25E	Erven
36	MELODING	3753	0	28°8'52.85S	26°53'45.56E	Erven
37	MELODING	3755	0	28°8'52.21S	26°53'46.07E	Erven
38	MELODING	4352	0	28°8'56.4S	26°53'20.98E	Erven
39	MELODING	4556	0	28°9'3.09S	26°53'32.91E	Erven
40	MELODING	12793	0	28°9'10.68S	26°53'14.01E	Erven
41	MELODING	12516	0	28°8'18.04S	26°53'18.43E	Erven
42	MELODING	12972	0	28°9'19.15S	26°53'25.34E	Erven
43	MELODING	12983	0	28°9'15.89S	26°53'27.11E	Erven
44	MELODING	12090	0	28°8'23.37S	26°53'45.34E	Erven
45	MELODING	12097	0	28°8'24.3S	26°53'48.23E	Erven
46	MELODING	12521	0	28°8'19.45S	26°53'16.9E	Erven
47	MELODING	6098	0	28°8'31.86S	26°53'3.06E	Erven
48	MELODING	6535	0	28°9'2.41S	26°52'58.94E	Erven
49	MELODING	6546	0	28°9'5.39S	26°53'2.42E	Erven
50	MELODING	5671	0	28°8'49.6S	26°53'10.81E	Erven
51	MELODING	6101	0	28°8'33.27S	26°53'3.11E	Erven
52	MELODING	4755	0	28°9'11.14S	26°53'31.82E	Erven
53	MELODING	4762	0	28°9'10.76S	26°53'31.22E	Erven
54	MELODING	4771	0	28°9'7.9S	26°53'33.51E	Erven
55	MELODING	3752	0	28°8'53.17S	26°53'45.3E	Erven
56	MELODING	4341	0	28°8'56.3S	26°53'22.12E	Erven
57	MELODING	4348	0	28°8'57.55S	26°53'19.75E	Erven
58	MELODING	3315	0	28°8'41.55S	26°53'43.24E	Erven
59	MELODING	3322	0	28°8'39.31S	26°53'45.04E	Erven
60	MELODING	3329	0	28°8'40.65S	26°53'47.1E	Erven
61	MELODING	12791	0	28°9'10.13S	26°53'13.38E	Erven
62	MELODING	12977	0	28°9'17.8S	26°53'25.58E	Erven
63	MELODING	12978	0	28°9'17.48S	26°53'25.83E	Erven
64	MELODING	12092	0	28°8'23.63S	26°53'46.16E	Erven
65	MELODING	12095	0	28°8'24.03S	26°53'47.41E	Erven
66	MELODING	12522	0	28°8'19.73S	26°53'16.6E	Erven
67	MELODING	12523	0	28°8'20.01S	26°53'16.29E	Erven
68	MELODING	6540	0	28°9'3.76S	26°53'0.52E	Erven
69	MELODING	6541	0	28°9'4.03S	26°53'0.84E	Erven
70	MELODING	5673	0	28°8'50.19S	26°53'11.47E	Erven
71	MELODING	5676	0	28°8'50.07S	26°53'10.3E	Erven
72	MELODING	6100	0	28°8'32.67S	26°53'3.18E	Erven
73	MELODING	4756	0	28°9'11.45S	26°53'31.56E	Erven
74	MELODING	4757	0	28°9'11.77S	26°53'31.3E	Erven
75	MELODING	4776	0	28°9'6.31S	26°53'34.79E	Erven
76	MELODING	3747	0	28°8'54.75S	26°53'44.03E	Erven
77	MELODING	4346	0	28°8'57.7S	26°53'20.6E	Erven
78	MELODING	4347	0	28°8'57.99S	26°53'20.26E	Erven
79	MELODING	3316	0	28°8'41.23S	26°53'43.5E	Erven
80	MELODING	3317	0	28°8'40.91S	26°53'43.75E	Erven
81	MELODING	3760	0	28°8'50.62S	26°53'47.34E	Erven
82	MELODING	3310	0	28°8'43.13S	26°53'41.97E	Erven
83	MELODING	3325	0	28°8'39.32S	26°53'47.29E	Erven
84	MELODING	3327	0	28°8'40.01S	26°53'47.62E	Erven
85	MELODING	2459	0	28°8'35.5S	26°53'54.97E	Erven
86	MELODING	2461	0	28°8'35.03S	26°53'55.78E	Erven
87	MELODING	2046	0	28°8'22.08S	26°53'25.87E	Erven
88	MELODING	2048	0	28°8'22.62S	26°53'26.51E	Erven

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89	MELODING	2063	0	28°8'21.36S	26°53'22.39E	Erven
90	MELODING	2065	0	28°8'21.9S	26°53'23.03E	Erven
91	MELODING	1805	0	28°8'25.59S	26°53'35.21E	Erven
92	MELODING	1807	0	28°8'24.86S	26°53'35.52E	Erven
93	MELODING	1809	0	28°8'24.12S	26°53'35.84E	Erven
94	MELODING	12990	0	28°9'15.96S	26°53'25.7E	Erven
95	MELODING	12992	0	28°9'16.59S	26°53'25.19E	Erven
96	MELODING	12537	0	28°8'20.93S	26°53'14.2E	Erven
97	MELODING	12539	0	28°8'20.37S	26°53'14.81E	Erven
98	MELODING	6553	0	28°9'4.67S	26°53'4.89E	Erven
99	MELODING	6555	0	28°9'4.11S	26°53'5.5E	Erven
100	MELODING	12121	0	28°8'25.45S	26°53'51.77E	Erven
101	MELODING	12123	0	28°8'25.71S	26°53'52.6E	Erven
102	MELODING	6128	0	28°8'41.07S	26°53'2.63E	Erven
103	MELODING	6130	0	28°8'41.63S	26°53'2.02E	Erven
104	MELODING	6556	0	28°9'3.83S	26°53'5.81E	Erven
105	MELODING	5693	0	28°8'50.44S	26°53'9.15E	Erven
106	MELODING	5695	0	28°8'50.98S	26°53'9.78E	Erven
107	MELODING	4364	0	28°8'53.04S	26°53'24.65E	Erven
108	MELODING	4368	0	28°8'54.43S	26°53'28.23E	Erven
109	MELODING	3764	0	28°8'49.35S	26°53'48.36E	Erven
110	MELODING	2457	0	28°8'36.14S	26°53'54.46E	Erven
111	MELODING	2887	0	28°8'35.84S	26°53'22.08E	Erven
112	MELODING	2894	0	28°8'33.83S	26°53'24.24E	Erven
113	MELODING	2052	0	28°8'22.82S	26°53'25.68E	Erven
114	MELODING	2059	0	28°8'20.93S	26°53'23.47E	Erven
115	MELODING	2066	0	28°8'22.18S	26°53'23.35E	Erven
116	MELODING	1645	0	28°8'31.24S	26°53'32.9E	Erven
117	MELODING	1801	0	28°8'27.06S	26°53'34.61E	Erven
118	MELODING	12988	0	28°9'15.32S	26°53'26.21E	Erven
119	MELODING	12995	0	28°9'17.55S	26°53'24.43E	Erven
120	MELODING	12526	0	28°8'20.85S	26°53'15.38E	Erven
121	MELODING	12533	0	28°8'22.09S	26°53'12.96E	Erven
122	MELODING	12544	0	28°8'18.96S	26°53'16.33E	Erven
123	MELODING	6549	0	28°9'5.9S	26°53'3.68E	Erven
124	MELODING	12108	0	28°8'24.91S	26°53'47.98E	Erven
125	MELODING	12119	0	28°8'23.41S	26°53'43.4E	Erven
126	MELODING	6115	0	28°8'37.25S	26°53'5.79E	Erven
127	MELODING	6125	0	28°8'40.23S	26°53'3.54E	Erven
128	MELODING	4777	0	28°9'5.99S	26°53'35.03E	Erven
129	MELODING	5691	0	28°8'49.9S	26°53'8.51E	Erven
130	MELODING	5698	0	28°8'51.9S	26°53'10.72E	Erven
131	MELODING	4363	0	28°8'53.32S	26°53'24.35E	Erven
132	MELODING	4780	0	28°9'6.52S	26°53'26.79E	Erven
133	MELODING	4787	0	28°9'8.1S	26°53'29.3E	Erven
134	MELODING	3771	0	28°8'53.21S	26°53'39.87E	Erven
135	MELODING	3778	0	28°8'55.73S	26°53'41.01E	Erven
136	MELODING	3785	0	28°8'58.29S	26°53'42.09E	Erven
137	MELODING	2907	0	28°8'37.73S	26°53'29.83E	Erven
138	MELODING	3336	0	28°8'42.87S	26°53'45.33E	Erven
139	MELODING	3343	0	28°8'45.11S	26°53'43.54E	Erven
140	MELODING	4351	0	28°8'56.68S	26°53'20.68E	Erven
141	MELODING	3330	0	28°8'40.96S	26°53'46.86E	Erven
142	MELODING	3333	0	28°8'41.92S	26°53'46.09E	Erven
143	MELODING	2454	0	28°8'37.09S	26°53'53.7E	Erven
144	MELODING	2456	0	28°8'36.45S	26°53'54.2E	Erven
145	MELODING	2049	0	28°8'22.91S	26°53'26.81E	Erven
146	MELODING	2051	0	28°8'23.09S	26°53'26E	Erven
147	MELODING	2058	0	28°8'21.2S	26°53'23.78E	Erven
148	MELODING	2060	0	28°8'20.65S	26°53'23.15E	Erven

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149	MELODING	1644	0	28°8'31.51S	26°53'33.21E	Erven
150	MELODING	1802	0	28°8'26.69S	26°53'34.76E	Erven
151	MELODING	1804	0	28°8'25.96S	26°53'35.06E	Erven
152	MELODING	12987	0	28°9'15S	26°53'26.46E	Erven
153	MELODING	12989	0	28°9'15.64S	26°53'25.95E	Erven
154	MELODING	12525	0	28°8'20.57S	26°53'15.68E	Erven
155	MELODING	12527	0	28°8'21.13S	26°53'15.07E	Erven
156	MELODING	12532	0	28°8'22.56S	26°53'13.5E	Erven
157	MELODING	12534	0	28°8'21.77S	26°53'13.29E	Erven
158	MELODING	12107	0	28°8'25.04S	26°53'48.39E	Erven
159	MELODING	12109	0	28°8'24.78S	26°53'47.56E	Erven
160	MELODING	12116	0	28°8'23.85S	26°53'44.67E	Erven
161	MELODING	12118	0	28°8'23.58S	26°53'43.85E	Erven
162	MELODING	6557	0	28°9'3.55S	26°53'6.11E	Erven
163	MELODING	6561	0	28°9'2.43S	26°53'7.33E	Erven
164	MELODING	5690	0	28°8'49.63S	26°53'8.2E	Erven
165	MELODING	5692	0	28°8'50.17S	26°53'8.83E	Erven
166	MELODING	4779	0	28°9'6.3S	26°53'26.43E	Erven
167	MELODING	4781	0	28°9'6.75S	26°53'27.15E	Erven
168	MELODING	4786	0	28°9'7.87S	26°53'28.94E	Erven
169	MELODING	2452	0	28°8'37.72S	26°53'53.19E	Erven
170	MELODING	2892	0	28°8'34.39S	26°53'23.63E	Erven
171	MELODING	2893	0	28°8'34.11S	26°53'23.94E	Erven
172	MELODING	2053	0	28°8'22.55S	26°53'25.36E	Erven
173	MELODING	2054	0	28°8'22.28S	26°53'25.05E	Erven
174	MELODING	2057	0	28°8'21.46S	26°53'24.09E	Erven
175	MELODING	1648	0	28°8'30.42S	26°53'31.95E	Erven
176	MELODING	1799	0	28°8'27.79S	26°53'34.3E	Erven
177	MELODING	1800	0	28°8'27.42S	26°53'34.46E	Erven
178	MELODING	12528	0	28°8'21.42S	26°53'14.77E	Erven
179	MELODING	12531	0	28°8'22.25S	26°53'13.85E	Erven
180	MELODING	12545	0	28°8'18.68S	26°53'16.64E	Erven
181	MELODING	12546	0	28°8'18.4S	26°53'16.95E	Erven
182	MELODING	12113	0	28°8'24.24S	26°53'45.92E	Erven
183	MELODING	12114	0	28°8'24.11S	26°53'45.5E	Erven
184	MELODING	6117	0	28°8'37.98S	26°53'5.99E	Erven
185	MELODING	6123	0	28°8'39.67S	26°53'4.15E	Erven
186	MELODING	4778	0	28°9'6.08S	26°53'26.04E	Erven
187	MELODING	5677	0	28°8'49.8S	26°53'9.98E	Erven
188	MELODING	4357	0	28°8'55S	26°53'22.51E	Erven
189	MELODING	4358	0	28°8'54.73S	26°53'22.82E	Erven
190	MELODING	4782	0	28°9'6.97S	26°53'27.51E	Erven
191	MELODING	4785	0	28°9'7.65S	26°53'28.58E	Erven
192	MELODING	3772	0	28°8'53.56S	26°53'40.02E	Erven
193	MELODING	3773	0	28°8'53.93S	26°53'40.2E	Erven
194	MELODING	2901	0	28°8'35.75S	26°53'31.21E	Erven
195	MELODING	2902	0	28°8'36.08S	26°53'30.98E	Erven
196	MELODING	3338	0	28°8'43.51S	26°53'44.82E	Erven
197	MELODING	3341	0	28°8'44.47S	26°53'44.05E	Erven
198	MELODING	3342	0	28°8'44.78S	26°53'43.79E	Erven
199	MELODING	12797	0	28°9'11.75S	26°53'15.28E	Erven
200	MELODING	12966	0	28°9'17.22S	26°53'26.94E	Erven
201	MELODING	12970	0	28°9'18.49S	26°53'25.92E	Erven
202	MELODING	12985	0	28°9'15.21S	26°53'27.66E	Erven
203	MELODING	12087	0	28°8'22.97S	26°53'44.1E	Erven
204	MELODING	12103	0	28°8'25.58S	26°53'50.09E	Erven
205	MELODING	12105	0	28°8'25.31S	26°53'49.22E	Erven
206	MELODING	6530	0	28°9'1.06S	26°52'57.36E	Erven
207	MELODING	6532	0	28°9'1.59S	26°52'57.99E	Erven
208	MELODING	6534	0	28°9'2.14S	26°52'58.62E	Erven

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209	MELODING	6547	0	28°9'5.68S	26°53'2.71E	Erven
210	MELODING	5663	0	28°8'47.44S	26°53'8.27E	Erven
211	MELODING	6105	0	28°8'32.17S	26°53'1.52E	Erven
212	MELODING	6107	0	28°8'31.58S	26°53'2.14E	Erven
213	MELODING	4765	0	28°9'9.8S	26°53'31.98E	Erven
214	MELODING	4767	0	28°9'9.17S	26°53'32.49E	Erven
215	MELODING	3754	0	28°8'52.53S	26°53'45.82E	Erven
216	MELODING	3756	0	28°8'51.9S	26°53'46.32E	Erven
217	MELODING	4353	0	28°8'56.13S	26°53'21.29E	Erven
218	MELODING	3766	0	28°8'48.72S	26°53'48.87E	Erven
219	MELODING	3781	0	28°8'56.83S	26°53'41.5E	Erven
220	MELODING	3783	0	28°8'57.66S	26°53'41.82E	Erven
221	MELODING	2909	0	28°8'38.45S	26°53'29.3E	Erven
222	MELODING	2911	0	28°8'39.01S	26°53'28.67E	Erven
223	MELODING	2464	0	28°8'32.21S	26°53'43.36E	Erven
224	MELODING	2466	0	28°8'32.48S	26°53'44.19E	Erven
225	MELODING	2479	0	28°8'34.22S	26°53'49.55E	Erven
226	MELODING	2481	0	28°8'34.47S	26°53'50.43E	Erven
227	MELODING	2483	0	28°8'35.8S	26°53'51.07E	Erven
228	MELODING	2073	0	28°8'24S	26°53'24.42E	Erven
229	MELODING	2075	0	28°8'23.46S	26°53'23.78E	Erven
230	MELODING	1813	0	28°8'20.76S	26°53'31.48E	Erven
231	MELODING	1815	0	28°8'21.03S	26°53'32.35E	Erven
232	MELODING	1817	0	28°8'21.33S	26°53'33.33E	Erven
233	MELODING	2241	0	28°8'31.7S	26°54'1.23E	Erven
234	MELODING	2243	0	28°8'30.93S	26°54'1.01E	Erven
235	MELODING	13000	0	28°9'18.79S	26°53'22.48E	Erven
236	MELODING	13002	0	28°9'18.13S	26°53'23.07E	Erven
237	MELODING	13018	0	28°9'14.7S	26°53'24.46E	Erven
238	MELODING	13020	0	28°9'15.34S	26°53'23.96E	Erven
239	MELODING	12548	0	28°8'17.84S	26°53'17.56E	Erven
240	MELODING	12550	0	28°8'17.28S	26°53'18.17E	Erven
241	MELODING	6567	0	28°9'0.65S	26°53'9.26E	Erven
242	MELODING	6569	0	28°8'59.29S	26°53'10.29E	Erven
243	MELODING	5701	0	28°8'51.18S	26°53'11.8E	Erven
244	MELODING	5703	0	28°8'50.62S	26°53'12.41E	Erven
245	MELODING	6146	0	28°8'47.28S	26°52'59.74E	Erven
246	MELODING	2471	0	28°8'33.15S	26°53'46.25E	Erven
247	MELODING	2472	0	28°8'33.28S	26°53'46.66E	Erven
248	MELODING	1654	0	28°8'31.34S	26°53'34.04E	Erven
249	MELODING	1655	0	28°8'31.54S	26°53'34.4E	Erven
250	MELODING	1824	0	28°8'23.85S	26°53'34.66E	Erven
251	MELODING	1825	0	28°8'24.22S	26°53'34.49E	Erven
252	MELODING	13008	0	28°9'16.22S	26°53'24.6E	Erven
253	MELODING	13011	0	28°9'15.26S	26°53'25.36E	Erven
254	MELODING	12126	0	28°8'26.11S	26°53'53.84E	Erven
255	MELODING	12127	0	28°8'26.24S	26°53'54.25E	Erven
256	MELODING	12558	0	28°8'14.68S	26°53'18.28E	Erven
257	MELODING	6562	0	28°9'2.05S	26°53'7.74E	Erven
258	MELODING	12135	0	28°8'26.72S	26°53'53.59E	Erven
259	MELODING	6138	0	28°8'44.17S	26°52'59.66E	Erven
260	MELODING	6139	0	28°8'44.55S	26°52'59.68E	Erven
261	MELODING	4802	0	28°9'7.73S	26°53'27.44E	Erven
262	MELODING	4803	0	28°9'7.5S	26°53'27.08E	Erven
263	MELODING	4372	0	28°8'55.51S	26°53'29.49E	Erven
264	MELODING	4377	0	28°8'57.22S	26°53'31.1E	Erven
265	MELODING	3345	0	28°8'44.4S	26°53'43.2E	Erven
266	MELODING	3346	0	28°8'44.08S	26°53'43.46E	Erven
267	MELODING	3788	0	28°8'57.79S	26°53'41.15E	Erven
268	MELODING	3789	0	28°8'57.43S	26°53'40.98E	Erven

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269	MELODING	2916	0	28°8'40.51S	26°53'28.73E	Erven
270	MELODING	2919	0	28°8'41.41S	26°53'28.57E	Erven
271	MELODING	2086	0	28°8'17.8S	26°53'23.68E	Erven
272	MELODING	2087	0	28°8'18.12S	26°53'23.43E	Erven
273	MELODING	2495	0	28°8'33.76S	26°53'46E	Erven
274	MELODING	2496	0	28°8'33.62S	26°53'45.59E	Erven
275	MELODING	3761	0	28°8'50.3S	26°53'47.6E	Erven
276	MELODING	3763	0	28°8'49.66S	26°53'48.11E	Erven
277	MELODING	3784	0	28°8'57.91S	26°53'42.39E	Erven
278	MELODING	2897	0	28°8'34.37S	26°53'32.16E	Erven
279	MELODING	2899	0	28°8'35.08S	26°53'31.67E	Erven
280	MELODING	2904	0	28°8'36.74S	26°53'30.52E	Erven
281	MELODING	2906	0	28°8'37.4S	26°53'30.05E	Erven
282	MELODING	2467	0	28°8'32.61S	26°53'44.6E	Erven
283	MELODING	2469	0	28°8'32.88S	26°53'45.43E	Erven
284	MELODING	2476	0	28°8'33.82S	26°53'48.32E	Erven
285	MELODING	2478	0	28°8'34.08S	26°53'49.14E	Erven
286	MELODING	2078	0	28°8'22.65S	26°53'22.84E	Erven
287	MELODING	2080	0	28°8'22.1S	26°53'22.21E	Erven
288	MELODING	1818	0	28°8'21.73S	26°53'33.48E	Erven
289	MELODING	1820	0	28°8'22.44S	26°53'33.85E	Erven
290	MELODING	2238	0	28°8'30.35S	26°54'2.24E	Erven
291	MELODING	2240	0	28°8'31.06S	26°54'1.69E	Erven
292	MELODING	13003	0	28°9'17.81S	26°53'23.32E	Erven
293	MELODING	13005	0	28°9'17.17S	26°53'23.83E	Erven
294	MELODING	13007	0	28°9'16.54S	26°53'24.34E	Erven
295	MELODING	13012	0	28°9'14.95S	26°53'25.61E	Erven
296	MELODING	13014	0	28°9'14.27S	26°53'26.17E	Erven
297	MELODING	12551	0	28°8'16.99S	26°53'18.5E	Erven
298	MELODING	12553	0	28°8'16.33S	26°53'19E	Erven
299	MELODING	6564	0	28°9'1.5S	26°53'8.35E	Erven
300	MELODING	6566	0	28°9'0.93S	26°53'8.96E	Erven
301	MELODING	6134	0	28°8'42.75S	26°53'0.8E	Erven
302	MELODING	6136	0	28°8'43.31S	26°53'0.18E	Erven
303	MELODING	6143	0	28°8'46.11S	26°52'59.71E	Erven
304	MELODING	6145	0	28°8'46.89S	26°52'59.73E	Erven
305	MELODING	3786	0	28°8'58.53S	26°53'41.49E	Erven
306	MELODING	4371	0	28°8'55.25S	26°53'29.18E	Erven
307	MELODING	4378	0	28°8'57.59S	26°53'31.26E	Erven
308	MELODING	4380	0	28°8'58.34S	26°53'31.59E	Erven
309	MELODING	3358	0	28°8'40.26S	26°53'46.51E	Erven
310	MELODING	3360	0	28°8'39.63S	26°53'47.02E	Erven
311	MELODING	3791	0	28°8'56.7S	26°53'40.66E	Erven
312	MELODING	3793	0	28°8'55.98S	26°53'40.33E	Erven
313	MELODING	2930	0	28°8'38.08S	26°53'28.65E	Erven
314	MELODING	2084	0	28°8'17.14S	26°53'24.16E	Erven
315	MELODING	2093	0	28°8'20.01S	26°53'21.88E	Erven
316	MELODING	2095	0	28°8'20.59S	26°53'21.24E	Erven
317	MELODING	1667	0	28°8'18.35S	26°53'29.69E	Erven
318	MELODING	1669	0	28°8'18.61S	26°53'30.51E	Erven
319	MELODING	1674	0	28°8'19.28S	26°53'32.58E	Erven
320	MELODING	1676	0	28°8'19.57S	26°53'33.47E	Erven
321	MELODING	1678	0	28°8'19.91S	26°53'34.52E	Erven
322	MELODING	2659	0	28°8'26.28S	26°53'20.38E	Erven
323	MELODING	2666	0	28°8'28.28S	26°53'18.24E	Erven
324	MELODING	2668	0	28°8'28.84S	26°53'17.63E	Erven
325	MELODING	12572	0	28°8'21.7S	26°53'17.16E	Erven
326	MELODING	13024	0	28°9'16.61S	26°53'22.93E	Erven
327	MELODING	12162	0	28°8'25.83S	26°53'45.41E	Erven
328	MELODING	6153	0	28°8'47.68S	26°52'59.01E	Erven

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329	MELODING	5720	0	28°8'50.91S	26°53'8.64E	Erven
330	MELODING	5722	0	28°8'50.36S	26°53'8.01E	Erven
331	MELODING	2470	0	28°8'33.01S	26°53'45.84E	Erven
332	MELODING	2477	0	28°8'33.95S	26°53'48.73E	Erven
333	MELODING	1649	0	28°8'29.97S	26°53'32.44E	Erven
334	MELODING	1660	0	28°8'16.41S	26°53'27.37E	Erven
335	MELODING	2079	0	28°8'22.37S	26°53'22.52E	Erven
336	MELODING	1819	0	28°8'22.08S	26°53'33.67E	Erven
337	MELODING	2237	0	28°8'30.03S	26°54'2.5E	Erven
338	MELODING	13006	0	28°9'16.86S	26°53'24.09E	Erven
339	MELODING	13013	0	28°9'14.63S	26°53'25.87E	Erven
340	MELODING	13021	0	28°9'15.65S	26°53'23.7E	Erven
341	MELODING	12132	0	28°8'27.12S	26°53'54.83E	Erven
342	MELODING	12552	0	28°8'16.65S	26°53'18.76E	Erven
343	MELODING	6563	0	28°9'1.77S	26°53'8.05E	Erven
344	MELODING	12137	0	28°8'26.46S	26°53'52.76E	Erven
345	MELODING	6132	0	28°8'42.19S	26°53'1.41E	Erven
346	MELODING	6137	0	28°8'43.64S	26°52'59.78E	Erven
347	MELODING	6144	0	28°8'46.5S	26°52'59.72E	Erven
348	MELODING	4793	0	28°9'9.75S	26°53'30.69E	Erven
349	MELODING	4804	0	28°9'7.24S	26°53'26.72E	Erven
350	MELODING	5706	0	28°8'50.79S	26°53'13.25E	Erven
351	MELODING	3787	0	28°8'58.15S	26°53'41.31E	Erven
352	MELODING	4379	0	28°8'57.95S	26°53'31.43E	Erven
353	MELODING	4390	0	28°9'0.69S	26°53'27.68E	Erven
354	MELODING	3344	0	28°8'44.75S	26°53'42.99E	Erven
355	MELODING	3351	0	28°8'42.5S	26°53'44.73E	Erven
356	MELODING	3359	0	28°8'39.95S	26°53'46.77E	Erven
357	MELODING	2484	0	28°8'35.53S	26°53'50.63E	Erven
358	MELODING	2914	0	28°8'39.89S	26°53'27.85E	Erven
359	MELODING	3311	0	28°8'42.82S	26°53'42.23E	Erven
360	MELODING	3326	0	28°8'39.69S	26°53'47.86E	Erven
361	MELODING	3328	0	28°8'40.33S	26°53'47.36E	Erven
362	MELODING	2458	0	28°8'35.82S	26°53'54.71E	Erven
363	MELODING	2460	0	28°8'35.12S	26°53'55.27E	Erven
364	MELODING	2885	0	28°8'36.41S	26°53'22.87E	Erven
365	MELODING	2045	0	28°8'21.81S	26°53'25.56E	Erven
366	MELODING	2047	0	28°8'22.35S	26°53'26.2E	Erven
367	MELODING	2062	0	28°8'21.09S	26°53'22.06E	Erven
368	MELODING	2064	0	28°8'21.63S	26°53'22.71E	Erven
369	MELODING	1642	0	28°8'32.06S	26°53'33.84E	Erven
370	MELODING	1643	0	28°8'31.78S	26°53'33.53E	Erven
371	MELODING	1806	0	28°8'25.23S	26°53'35.36E	Erven
372	MELODING	1808	0	28°8'24.49S	26°53'35.66E	Erven
373	MELODING	12991	0	28°9'16.28S	26°53'25.45E	Erven
374	MELODING	12993	0	28°9'16.91S	26°53'24.94E	Erven
375	MELODING	12536	0	28°8'21.21S	26°53'13.9E	Erven
376	MELODING	12538	0	28°8'20.65S	26°53'14.5E	Erven
377	MELODING	12540	0	28°8'20.08S	26°53'15.11E	Erven
378	MELODING	6552	0	28°9'4.96S	26°53'4.58E	Erven
379	MELODING	6554	0	28°9'4.39S	26°53'5.19E	Erven
380	MELODING	12120	0	28°8'25.31S	26°53'51.31E	Erven
381	MELODING	12122	0	28°8'25.58S	26°53'52.18E	Erven
382	MELODING	6129	0	28°8'41.35S	26°53'2.33E	Erven
383	MELODING	6131	0	28°8'41.91S	26°53'1.71E	Erven
384	MELODING	5694	0	28°8'50.72S	26°53'9.46E	Erven
385	MELODING	5696	0	28°8'51.25S	26°53'10.1E	Erven
386	MELODING	4365	0	28°8'52.75S	26°53'24.96E	Erven
387	MELODING	4369	0	28°8'54.7S	26°53'28.54E	Erven
388	MELODING	6148	0	28°8'48.06S	26°52'59.75E	Erven

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389	MELODING	5707	0	28°8'51.07S	26°53'12.94E	Erven
390	MELODING	5709	0	28°8'51.63S	26°53'12.33E	Erven
391	MELODING	4387	0	28°8'59.85S	26°53'28.6E	Erven
392	MELODING	4389	0	28°9'0.4S	26°53'27.99E	Erven
393	MELODING	3354	0	28°8'41.54S	26°53'45.5E	Erven
394	MELODING	3357	0	28°8'40.59S	26°53'46.26E	Erven
395	MELODING	2486	0	28°8'34.97S	26°53'49.73E	Erven
396	MELODING	2488	0	28°8'34.69S	26°53'48.89E	Erven
397	MELODING	2925	0	28°8'39.48S	26°53'27.13E	Erven
398	MELODING	2927	0	28°8'38.92S	26°53'27.74E	Erven
399	MELODING	2929	0	28°8'38.36S	26°53'28.35E	Erven
400	MELODING	2096	0	28°8'20.89S	26°53'20.93E	Erven
401	MELODING	2098	0	28°8'21.52S	26°53'20.09E	Erven
402	MELODING	1662	0	28°8'17.11S	26°53'28.02E	Erven
403	MELODING	1664	0	28°8'17.65S	26°53'28.65E	Erven
404	MELODING	1679	0	28°8'20.05S	26°53'34.95E	Erven
405	MELODING	1681	0	28°8'20.33S	26°53'35.82E	Erven
406	MELODING	1826	0	28°8'24.59S	26°53'34.35E	Erven
407	MELODING	1828	0	28°8'25.32S	26°53'34.04E	Erven
408	MELODING	1846	0	28°8'26.66S	26°53'27.53E	Erven
409	MELODING	1848	0	28°8'26.42S	26°53'26.73E	Erven
410	MELODING	13028	0	28°9'17.88S	26°53'21.92E	Erven
411	MELODING	13030	0	28°9'18.55S	26°53'21.35E	Erven
412	MELODING	12149	0	28°8'29.99S	26°53'44.08E	Erven
413	MELODING	12151	0	28°8'30.32S	26°53'45.11E	Erven
414	MELODING	12161	0	28°8'25.3S	26°53'45.62E	Erven
415	MELODING	1670	0	28°8'18.74S	26°53'30.93E	Erven
416	MELODING	1673	0	28°8'19.15S	26°53'32.16E	Erven
417	MELODING	2660	0	28°8'26.59S	26°53'20.06E	Erven
418	MELODING	2663	0	28°8'27.43S	26°53'19.15E	Erven
419	MELODING	2664	0	28°8'27.71S	26°53'18.85E	Erven
420	MELODING	1834	0	28°8'27.51S	26°53'33.14E	Erven
421	MELODING	1835	0	28°8'27.9S	26°53'33.02E	Erven
422	MELODING	12571	0	28°8'21.42S	26°53'17.46E	Erven
423	MELODING	13036	0	28°9'16.55S	26°53'22.08E	Erven
424	MELODING	12139	0	28°8'26.19S	26°53'51.94E	Erven
425	MELODING	6157	0	28°8'46.12S	26°52'58.98E	Erven
426	MELODING	6158	0	28°8'45.73S	26°52'58.97E	Erven
427	MELODING	11675	0	28°8'15.96S	26°53'31.85E	Erven
428	MELODING	11676	0	28°8'16.09S	26°53'32.27E	Erven
429	MELODING	11679	0	28°8'16.49S	26°53'33.51E	Erven
430	MELODING	5725	0	28°8'49.93S	26°53'6.63E	Erven
431	MELODING	5726	0	28°8'49.53S	26°53'6.6E	Erven
432	MELODING	4817	0	28°9'9.69S	26°53'27.4E	Erven
433	MELODING	4818	0	28°9'9.47S	26°53'27.04E	Erven
434	MELODING	3812	0	28°8'35.15S	26°54'1.99E	Erven
435	MELODING	3815	0	28°8'36.2S	26°54'1.06E	Erven
436	MELODING	3366	0	28°8'41.16S	26°53'37.42E	Erven
437	MELODING	3367	0	28°8'41.43S	26°53'37.74E	Erven
438	MELODING	2501	0	28°8'32.95S	26°53'43.53E	Erven
439	MELODING	2502	0	28°8'32.82S	26°53'43.11E	Erven
440	MELODING	2516	0	28°8'35.26S	26°53'47.14E	Erven
441	MELODING	2941	0	28°8'34.41S	26°53'31.28E	Erven
442	MELODING	2105	0	28°8'23.46S	26°53'22.21E	Erven
443	MELODING	2106	0	28°8'23.72S	26°53'22.52E	Erven
444	MELODING	6160	0	28°8'44.95S	26°52'58.96E	Erven
445	MELODING	6162	0	28°8'44.12S	26°52'58.92E	Erven
446	MELODING	4394	0	28°9'1.81S	26°53'26.46E	Erven
447	MELODING	3801	0	28°8'43.99S	26°53'42.32E	Erven
448	MELODING	3809	0	28°8'34.19S	26°54'2.75E	Erven

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449	MELODING	3811	0	28°8'34.83S	26°54'2.24E	Erven
450	MELODING	4399	0	28°9'3.3S	26°53'24.83E	Erven
451	MELODING	4401	0	28°9'3.46S	26°53'24.16E	Erven
452	MELODING	3379	0	28°8'49.25S	26°53'40.22E	Erven
453	MELODING	3382	0	28°8'50.35S	26°53'39.46E	Erven
454	MELODING	2504	0	28°8'33.58S	26°53'42.19E	Erven
455	MELODING	2506	0	28°8'33.84S	26°53'43.05E	Erven
456	MELODING	2101	0	28°8'22.38S	26°53'20.94E	Erven
457	MELODING	2103	0	28°8'22.92S	26°53'21.57E	Erven
458	MELODING	2110	0	28°8'24.88S	26°53'23.72E	Erven
459	MELODING	2112	0	28°8'24.73S	26°53'22.66E	Erven
460	MELODING	2680	0	28°8'26.67S	26°53'18.89E	Erven
461	MELODING	2682	0	28°8'26.11S	26°53'19.5E	Erven
462	MELODING	3110	0	28°8'37.98S	26°53'35.62E	Erven
463	MELODING	3112	0	28°8'38.64S	26°53'35.16E	Erven
464	MELODING	2260	0	28°8'32.5S	26°54'2.77E	Erven
465	MELODING	2261	0	28°8'32.81S	26°54'2.51E	Erven
466	MELODING	12575	0	28°8'22.54S	26°53'16.24E	Erven
467	MELODING	12577	0	28°8'23.1S	26°53'15.63E	Erven
468	MELODING	12163	0	28°8'26.28S	26°53'45.23E	Erven
469	MELODING	12170	0	28°8'27.78S	26°53'43.44E	Erven
470	MELODING	12172	0	28°8'26.87S	26°53'43.82E	Erven
471	MELODING	2921	0	28°8'40.68S	26°53'27.88E	Erven
472	MELODING	2085	0	28°8'17.47S	26°53'23.92E	Erven
473	MELODING	2094	0	28°8'20.3S	26°53'21.56E	Erven
474	MELODING	2490	0	28°8'34.43S	26°53'48.06E	Erven
475	MELODING	1661	0	28°8'16.84S	26°53'27.71E	Erven
476	MELODING	1668	0	28°8'18.48S	26°53'30.1E	Erven
477	MELODING	1675	0	28°8'19.42S	26°53'32.99E	Erven
478	MELODING	2246	0	28°8'29.97S	26°54'1.64E	Erven
479	MELODING	2250	0	28°8'29.31S	26°54'4.53E	Erven
480	MELODING	2665	0	28°8'27.99S	26°53'18.54E	Erven
481	MELODING	1833	0	28°8'27.15S	26°53'33.28E	Erven
482	MELODING	1843	0	28°8'27.48S	26°53'28.49E	Erven
483	MELODING	1850	0	28°8'26.44S	26°53'25.7E	Erven
484	MELODING	12573	0	28°8'21.98S	26°53'16.85E	Erven
485	MELODING	13031	0	28°9'18.19S	26°53'20.78E	Erven
486	MELODING	12148	0	28°8'29.82S	26°53'43.55E	Erven
487	MELODING	12574	0	28°8'22.26S	26°53'16.55E	Erven
488	MELODING	6159	0	28°8'45.34S	26°52'58.96E	Erven
489	MELODING	11674	0	28°8'15.83S	26°53'31.44E	Erven
490	MELODING	5712	0	28°8'52.49S	26°53'11.39E	Erven
491	MELODING	5719	0	28°8'51.18S	26°53'8.95E	Erven
492	MELODING	6163	0	28°8'43.47S	26°52'58.96E	Erven
493	MELODING	4812	0	28°9'9.17S	26°53'27.82E	Erven
494	MELODING	4819	0	28°9'9.24S	26°53'26.68E	Erven
495	MELODING	3810	0	28°8'34.51S	26°54'2.5E	Erven
496	MELODING	4400	0	28°9'3.73S	26°53'24.51E	Erven
497	MELODING	2937	0	28°8'35.73S	26°53'30.36E	Erven
498	MELODING	3372	0	28°8'42.79S	26°53'39.32E	Erven
499	MELODING	3380	0	28°8'49.57S	26°53'39.97E	Erven
500	MELODING	2503	0	28°8'32.67S	26°53'42.68E	Erven
501	MELODING	2514	0	28°8'34.9S	26°53'46.35E	Erven
502	MELODING	2943	0	28°8'34.99S	26°53'33.9E	Erven
503	MELODING	1688	0	28°8'21.31S	26°53'38.86E	Erven
504	MELODING	2111	0	28°8'24.99S	26°53'23.03E	Erven
505	MELODING	2118	0	28°8'23.11S	26°53'20.74E	Erven
506	MELODING	2670	0	28°8'29.39S	26°53'17.01E	Erven
507	MELODING	2683	0	28°8'27.07S	26°53'21.13E	Erven
508	MELODING	3111	0	28°8'38.31S	26°53'35.39E	Erven

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509	MELODING	1852	0	28°8'26.45S	26°53'24.82E	Erven
510	MELODING	2256	0	28°8'31.23S	26°54'3.78E	Erven
511	MELODING	1856	0	28°8'26.46S	26°53'23.06E	Erven
512	MELODING	13038	0	28°9'15.92S	26°53'22.59E	Erven
513	MELODING	13046	0	28°9'13.33S	26°53'24.67E	Erven
514	MELODING	12576	0	28°8'22.82S	26°53'15.94E	Erven
515	MELODING	12583	0	28°8'22.34S	26°53'15.37E	Erven
516	MELODING	12169	0	28°8'28.35S	26°53'43.22E	Erven
517	MELODING	6165	0	28°8'42.87S	26°52'59.66E	Erven
518	MELODING	6172	0	28°8'40.9S	26°53'1.8E	Erven
519	MELODING	5458	0	28°8'45.28S	26°53'19.14E	Erven
520	MELODING	5519	0	28°8'46.9S	26°53'18.92E	Erven
521	MELODING	5735	0	28°8'52.39S	26°53'8.94E	Erven
522	MELODING	5743	0	28°8'51.88S	26°53'13.61E	Erven
523	MELODING	4406	0	28°9'1.92S	26°53'25.32E	Erven
524	MELODING	4413	0	28°8'59.96S	26°53'27.46E	Erven
525	MELODING	4426	0	28°8'56.25S	26°53'29.3E	Erven
526	MELODING	3817	0	28°8'36.49S	26°54'0.54E	Erven
527	MELODING	3828	0	28°8'30.8S	26°53'59.85E	Erven
528	MELODING	5447	0	28°8'45.7S	26°53'13.12E	Erven
529	MELODING	6182	0	28°8'38.09S	26°53'4.85E	Erven
530	MELODING	5517	0	28°8'47.46S	26°53'18.29E	Erven
531	MELODING	5444	0	28°8'41.55S	26°53'17.71E	Erven
532	MELODING	4403	0	28°9'2.86S	26°53'24.3E	Erven
533	MELODING	4405	0	28°9'2.29S	26°53'24.91E	Erven
534	MELODING	4412	0	28°9'0.24S	26°53'27.16E	Erven
535	MELODING	4414	0	28°8'59.68S	26°53'27.77E	Erven
536	MELODING	3827	0	28°8'30.42S	26°53'59.75E	Erven
537	MELODING	3829	0	28°8'31.18S	26°53'59.94E	Erven
538	MELODING	2949	0	28°8'37.04S	26°53'32.46E	Erven
539	MELODING	2951	0	28°8'37.71S	26°53'32E	Erven
540	MELODING	2128	0	28°8'20.23S	26°53'20.61E	Erven
541	MELODING	2519	0	28°8'36.09S	26°53'48.06E	Erven
542	MELODING	2524	0	28°8'36.49S	26°53'49.51E	Erven
543	MELODING	2526	0	28°8'36.52S	26°53'50.4E	Erven
544	MELODING	3134	0	28°8'45.19S	26°53'31.56E	Erven
545	MELODING	3136	0	28°8'45.72S	26°53'32.2E	Erven
546	MELODING	2262	0	28°8'33.13S	26°54'2.26E	Erven
547	MELODING	2264	0	28°8'33.77S	26°54'1.7E	Erven
548	MELODING	1863	0	28°8'25.34S	26°53'20.72E	Erven
549	MELODING	1865	0	28°8'24.77S	26°53'20.05E	Erven
550	MELODING	1872	0	28°8'24.3S	26°53'20.56E	Erven
551	MELODING	1874	0	28°8'24.88S	26°53'21.22E	Erven
552	MELODING	13055	0	28°9'15.35S	26°53'21.69E	Erven
553	MELODING	3765	0	28°8'49.03S	26°53'48.61E	Erven
554	MELODING	3767	0	28°8'51.46S	26°53'40.7E	Erven
555	MELODING	3780	0	28°8'56.46S	26°53'41.34E	Erven
556	MELODING	3782	0	28°8'57.18S	26°53'41.66E	Erven
557	MELODING	2908	0	28°8'38.09S	26°53'29.57E	Erven
558	MELODING	2910	0	28°8'38.73S	26°53'28.97E	Erven
559	MELODING	2463	0	28°8'32.08S	26°53'42.92E	Erven
560	MELODING	2465	0	28°8'32.35S	26°53'43.77E	Erven
561	MELODING	2480	0	28°8'34.35S	26°53'49.98E	Erven
562	MELODING	2482	0	28°8'34.71S	26°53'51.34E	Erven
563	MELODING	2074	0	28°8'23.72S	26°53'24.1E	Erven
564	MELODING	2076	0	28°8'23.18S	26°53'23.47E	Erven
565	MELODING	1814	0	28°8'20.89S	26°53'31.91E	Erven
566	MELODING	1816	0	28°8'21.22S	26°53'32.83E	Erven
567	MELODING	2242	0	28°8'31.31S	26°54'1.1E	Erven
568	MELODING	12999	0	28°9'18.87S	26°53'23.32E	Erven

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569	MELODING	13001	0	28°9'18.44S	26°53'22.81E	Erven
570	MELODING	13017	0	28°9'14.38S	26°53'24.72E	Erven
571	MELODING	13019	0	28°9'15.02S	26°53'24.2E	Erven
572	MELODING	12134	0	28°8'26.85S	26°53'54E	Erven
573	MELODING	12549	0	28°8'17.56S	26°53'17.86E	Erven
574	MELODING	6568	0	28°9'0.37S	26°53'9.57E	Erven
575	MELODING	5702	0	28°8'50.9S	26°53'12.11E	Erven
576	MELODING	5704	0	28°8'50.34S	26°53'12.72E	Erven
577	MELODING	6147	0	28°8'47.67S	26°52'59.75E	Erven
578	MELODING	6149	0	28°8'48.45S	26°52'59.76E	Erven
579	MELODING	5708	0	28°8'51.35S	26°53'12.64E	Erven
580	MELODING	5710	0	28°8'51.91S	26°53'12.03E	Erven
581	MELODING	2684	0	28°8'27.5S	26°53'21.64E	Erven
582	MELODING	2685	0	28°8'27.82S	26°53'21.32E	Erven
583	MELODING	2253	0	28°8'30.27S	26°54'4.54E	Erven
584	MELODING	1857	0	28°8'26.46S	26°53'22.61E	Erven
585	MELODING	1858	0	28°8'26.87S	26°53'22.4E	Erven
586	MELODING	13040	0	28°9'15.28S	26°53'23.1E	Erven
587	MELODING	13044	0	28°9'14.01S	26°53'24.12E	Erven
588	MELODING	12588	0	28°8'20.94S	26°53'16.89E	Erven
589	MELODING	12589	0	28°8'20.65S	26°53'17.2E	Erven
590	MELODING	12164	0	28°8'26.74S	26°53'45.04E	Erven
591	MELODING	12167	0	28°8'28.12S	26°53'44.47E	Erven
592	MELODING	12168	0	28°8'28.67S	26°53'44.23E	Erven
593	MELODING	6166	0	28°8'42.59S	26°52'59.96E	Erven
594	MELODING	6167	0	28°8'42.3S	26°53'0.27E	Erven
595	MELODING	6184	0	28°8'37.53S	26°53'5.46E	Erven
596	MELODING	5446	0	28°8'42.65S	26°53'12.29E	Erven
597	MELODING	5741	0	28°8'51.77S	26°53'7E	Erven
598	MELODING	5742	0	28°8'51.43S	26°53'6.61E	Erven
599	MELODING	4407	0	28°9'1.64S	26°53'25.63E	Erven
600	MELODING	4408	0	28°9'1.36S	26°53'25.93E	Erven
601	MELODING	3387	0	28°8'48.87S	26°53'39.63E	Erven
602	MELODING	3388	0	28°8'48.55S	26°53'39.87E	Erven
603	MELODING	2946	0	28°8'36.06S	26°53'33.15E	Erven
604	MELODING	2947	0	28°8'36.38S	26°53'32.92E	Erven
605	MELODING	2960	0	28°8'39.79S	26°53'29.35E	Erven
606	MELODING	2961	0	28°8'39.43S	26°53'29.72E	Erven
607	MELODING	2964	0	28°8'38.37S	26°53'30.67E	Erven
608	MELODING	2521	0	28°8'35.82S	26°53'48.83E	Erven
609	MELODING	5715	0	28°8'52.27S	26°53'10.22E	Erven
610	MELODING	5717	0	28°8'51.72S	26°53'9.59E	Erven
611	MELODING	4395	0	28°9'2.09S	26°53'26.15E	Erven
612	MELODING	4397	0	28°9'2.75S	26°53'25.45E	Erven
613	MELODING	3798	0	28°8'54.17S	26°53'39.51E	Erven
614	MELODING	3800	0	28°8'53.45S	26°53'39.19E	Erven
615	MELODING	2934	0	28°8'36.73S	26°53'29.66E	Erven
616	MELODING	2936	0	28°8'36.07S	26°53'30.13E	Erven
617	MELODING	3376	0	28°8'46S	26°53'42.41E	Erven
618	MELODING	3378	0	28°8'48.94S	26°53'40.47E	Erven
619	MELODING	2507	0	28°8'33.97S	26°53'43.46E	Erven
620	MELODING	2509	0	28°8'34.24S	26°53'44.28E	Erven
621	MELODING	2511	0	28°8'34.5S	26°53'45.11E	Erven
622	MELODING	1684	0	28°8'20.75S	26°53'37.13E	Erven
623	MELODING	1686	0	28°8'21.03S	26°53'37.99E	Erven
624	MELODING	2113	0	28°8'24.46S	26°53'22.33E	Erven
625	MELODING	2115	0	28°8'23.92S	26°53'21.7E	Erven
626	MELODING	2675	0	28°8'28.07S	26°53'17.36E	Erven
627	MELODING	2677	0	28°8'27.51S	26°53'17.98E	Erven
628	MELODING	2679	0	28°8'26.95S	26°53'18.59E	Erven

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629	MELODING	3113	0	28°8'38.97S	26°53'34.93E	Erven
630	MELODING	3115	0	28°8'39.63S	26°53'34.46E	Erven
631	MELODING	13051	0	28°9'14.08S	26°53'22.71E	Erven
632	MELODING	12578	0	28°8'23.38S	26°53'15.33E	Erven
633	MELODING	12795	0	28°9'11.21S	26°53'14.65E	Erven
634	MELODING	12514	0	28°8'17.43S	26°53'19.11E	Erven
635	MELODING	12974	0	28°9'18.75S	26°53'24.81E	Erven
636	MELODING	12981	0	28°9'16.53S	26°53'26.6E	Erven
637	MELODING	12088	0	28°8'23.1S	26°53'44.51E	Erven
638	MELODING	12099	0	28°8'24.57S	26°53'49.05E	Erven
639	MELODING	12519	0	28°8'18.89S	26°53'17.52E	Erven
640	MELODING	6096	0	28°8'30.97S	26°53'3.23E	Erven
641	MELODING	6537	0	28°9'2.95S	26°52'59.57E	Erven
642	MELODING	6544	0	28°9'4.84S	26°53'1.78E	Erven
643	MELODING	5665	0	28°8'47.98S	26°53'8.91E	Erven
644	MELODING	6103	0	28°8'32.62S	26°53'2.38E	Erven
645	MELODING	4386	0	28°8'59.57S	26°53'28.9E	Erven
646	MELODING	4388	0	28°9'0.13S	26°53'28.29E	Erven
647	MELODING	3353	0	28°8'41.86S	26°53'45.24E	Erven
648	MELODING	3356	0	28°8'40.9S	26°53'46E	Erven
649	MELODING	2485	0	28°8'35.21S	26°53'50.19E	Erven
650	MELODING	2487	0	28°8'34.83S	26°53'49.31E	Erven
651	MELODING	2926	0	28°8'39.2S	26°53'27.43E	Erven
652	MELODING	2928	0	28°8'38.64S	26°53'28.05E	Erven
653	MELODING	2097	0	28°8'21.18S	26°53'20.61E	Erven
654	MELODING	2099	0	28°8'21.83S	26°53'20.3E	Erven
655	MELODING	1663	0	28°8'17.38S	26°53'28.34E	Erven
656	MELODING	1665	0	28°8'17.92S	26°53'28.97E	Erven
657	MELODING	1680	0	28°8'20.19S	26°53'35.38E	Erven
658	MELODING	1682	0	28°8'20.48S	26°53'36.25E	Erven
659	MELODING	2247	0	28°8'29.66S	26°54'1.89E	Erven
660	MELODING	2248	0	28°8'29.34S	26°54'2.15E	Erven
661	MELODING	1827	0	28°8'24.95S	26°53'34.19E	Erven
662	MELODING	1829	0	28°8'25.69S	26°53'33.89E	Erven
663	MELODING	1847	0	28°8'26.37S	26°53'27.2E	Erven
664	MELODING	1849	0	28°8'26.43S	26°53'26.29E	Erven
665	MELODING	13026	0	28°9'17.25S	26°53'22.43E	Erven
666	MELODING	13029	0	28°9'18.19S	26°53'21.66E	Erven
667	MELODING	12150	0	28°8'30.16S	26°53'44.59E	Erven
668	MELODING	12152	0	28°8'30.53S	26°53'45.72E	Erven
669	MELODING	5716	0	28°8'51.99S	26°53'9.91E	Erven
670	MELODING	5718	0	28°8'51.45S	26°53'9.27E	Erven
671	MELODING	4396	0	28°9'2.37S	26°53'25.85E	Erven
672	MELODING	2948	0	28°8'36.71S	26°53'32.68E	Erven
673	MELODING	2959	0	28°8'40.23S	26°53'29.86E	Erven
674	MELODING	2966	0	28°8'37.7S	26°53'31.14E	Erven
675	MELODING	2127	0	28°8'20.54S	26°53'20.29E	Erven
676	MELODING	2527	0	28°8'36.89S	26°53'50.12E	Erven
677	MELODING	2534	0	28°8'36.48S	26°53'47.64E	Erven
678	MELODING	3117	0	28°8'40.41S	26°53'33.93E	Erven
679	MELODING	3124	0	28°8'42.5S	26°53'31.91E	Erven
680	MELODING	3133	0	28°8'44.91S	26°53'31.25E	Erven
681	MELODING	2263	0	28°8'33.45S	26°54'2E	Erven
682	MELODING	2692	0	28°8'29.81S	26°53'19.15E	Erven
683	MELODING	2699	0	28°8'31.81S	26°53'16.97E	Erven
684	MELODING	1864	0	28°8'25.06S	26°53'20.38E	Erven
685	MELODING	1873	0	28°8'24.59S	26°53'20.89E	Erven
686	MELODING	1880	0	28°8'25.82S	26°53'23.49E	Erven
687	MELODING	2269	0	28°8'31.8S	26°54'2.42E	Erven
688	MELODING	13056	0	28°9'15.67S	26°53'21.44E	Erven

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689	MELODING	13063	0	28°9'17.25S	26°53'19.29E	Erven
690	MELODING	13075	0	28°9'13.39S	26°53'22.37E	Erven
691	MELODING	12185	0	28°8'28.26S	26°53'46.68E	Erven
692	MELODING	12603	0	28°8'58.78S	26°53'15.47E	Erven
693	MELODING	12614	0	28°9'1.91S	26°53'10.79E	Erven
694	MELODING	5750	0	28°8'54.07S	26°53'12.22E	Erven
695	MELODING	5757	0	28°8'54.2S	26°53'11.07E	Erven
696	MELODING	6191	0	28°8'40.24S	26°53'6.08E	Erven
697	MELODING	5317	0	28°8'43.99S	26°53'25.71E	Erven
698	MELODING	2522	0	28°8'36.45S	26°53'48.61E	Erven
699	MELODING	3119	0	28°8'41.1S	26°53'33.47E	Erven
700	MELODING	3122	0	28°8'41.94S	26°53'32.52E	Erven
701	MELODING	3562	0	28°8'45.35S	26°53'45.73E	Erven
702	MELODING	3563	0	28°8'45.66S	26°53'45.48E	Erven
703	MELODING	2697	0	28°8'31.24S	26°53'17.6E	Erven
704	MELODING	2698	0	28°8'31.52S	26°53'17.29E	Erven
705	MELODING	1866	0	28°8'24.49S	26°53'19.71E	Erven
706	MELODING	1871	0	28°8'24.01S	26°53'20.21E	Erven
707	MELODING	2270	0	28°8'31.48S	26°54'2.68E	Erven
708	MELODING	2271	0	28°8'31.17S	26°54'2.93E	Erven
709	MELODING	12601	0	28°8'58.1S	26°53'14.68E	Erven
710	MELODING	13068	0	28°9'15.61S	26°53'20.59E	Erven
711	MELODING	13069	0	28°9'15.29S	26°53'20.85E	Erven
712	MELODING	12187	0	28°8'28.99S	26°53'46.38E	Erven
713	MELODING	12190	0	28°8'28.76S	26°53'45.69E	Erven
714	MELODING	5759	0	28°8'53.62S	26°53'11.69E	Erven
715	MELODING	6189	0	28°8'39.67S	26°53'6.7E	Erven
716	MELODING	5318	0	28°8'43.65S	26°53'25.27E	Erven
717	MELODING	5319	0	28°8'43.38S	26°53'24.96E	Erven
718	MELODING	3836	0	28°8'33.84S	26°54'0.62E	Erven
719	MELODING	3837	0	28°8'34.22S	26°54'0.78E	Erven
720	MELODING	4437	0	28°8'56.08S	26°53'25.07E	Erven
721	MELODING	3395	0	28°8'42.17S	26°53'37.55E	Erven
722	MELODING	3396	0	28°8'41.91S	26°53'37.23E	Erven
723	MELODING	5324	0	28°8'41.94S	26°53'23.28E	Erven
724	MELODING	5338	0	28°8'38.15S	26°53'18.85E	Erven
725	MELODING	4428	0	28°8'55.71S	26°53'28.67E	Erven
726	MELODING	4435	0	28°8'55.51S	26°53'25.67E	Erven
727	MELODING	3397	0	28°8'41.63S	26°53'36.91E	Erven
728	MELODING	3408	0	28°8'42.6S	26°53'36.46E	Erven
729	MELODING	3415	0	28°8'44.53S	26°53'38.71E	Erven
730	MELODING	2537	0	28°8'35.75S	26°53'46.53E	Erven
731	MELODING	2971	0	28°8'36.04S	26°53'32.29E	Erven
732	MELODING	2978	0	28°8'33.53S	26°53'34.6E	Erven
733	MELODING	3567	0	28°8'46.94S	26°53'44.45E	Erven
734	MELODING	3575	0	28°8'49.48S	26°53'42.42E	Erven
735	MELODING	3582	0	28°8'49.1S	26°53'41.82E	Erven
736	MELODING	2710	0	28°8'29.86S	26°53'12.59E	Erven
737	MELODING	3138	0	28°8'46.27S	26°53'32.83E	Erven
738	MELODING	3145	0	28°8'48.16S	26°53'35.05E	Erven
739	MELODING	2277	0	28°8'32.86S	26°53'57.9E	Erven
740	MELODING	2284	0	28°8'35.53S	26°53'58.6E	Erven
741	MELODING	2291	0	28°8'38.18S	26°53'59.29E	Erven
742	MELODING	1883	0	28°8'25.8S	26°53'24.81E	Erven
743	MELODING	1890	0	28°8'25.93S	26°53'27.73E	Erven
744	MELODING	12615	0	28°9'2.3S	26°53'10.55E	Erven
745	MELODING	12622	0	28°9'4.33S	26°53'8.16E	Erven
746	MELODING	12197	0	28°8'26.21S	26°53'46.74E	Erven
747	MELODING	6206	0	28°8'44.84S	26°53'1.49E	Erven
748	MELODING	6213	0	28°8'47.64S	26°53'1.58E	Erven

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749	MELODING	3409	0	28°8'42.87S	26°53'36.78E	Erven
750	MELODING	3410	0	28°8'43.16S	26°53'37.11E	Erven
751	MELODING	2542	0	28°8'34.98S	26°53'44.44E	Erven
752	MELODING	2543	0	28°8'34.85S	26°53'44.03E	Erven
753	MELODING	3568	0	28°8'47.25S	26°53'44.2E	Erven
754	MELODING	3569	0	28°8'47.57S	26°53'43.94E	Erven
755	MELODING	3572	0	28°8'48.52S	26°53'43.18E	Erven
756	MELODING	3587	0	28°8'47.51S	26°53'43.09E	Erven
757	MELODING	3588	0	28°8'47.19S	26°53'43.35E	Erven
758	MELODING	3143	0	28°8'47.62S	26°53'34.41E	Erven
759	MELODING	3144	0	28°8'47.89S	26°53'34.73E	Erven
760	MELODING	2278	0	28°8'33.25S	26°53'58.03E	Erven
761	MELODING	2279	0	28°8'33.63S	26°53'58.12E	Erven
762	MELODING	2282	0	28°8'34.77S	26°53'58.41E	Erven
763	MELODING	2720	0	28°8'29.67S	26°53'13.41E	Erven
764	MELODING	1895	0	28°8'27.28S	26°53'29.32E	Erven
765	MELODING	1899	0	28°8'28.36S	26°53'30.58E	Erven
766	MELODING	12620	0	28°9'3.77S	26°53'8.77E	Erven
767	MELODING	12621	0	28°9'4.05S	26°53'8.47E	Erven
768	MELODING	6211	0	28°8'46.86S	26°53'1.56E	Erven
769	MELODING	6212	0	28°8'47.25S	26°53'1.57E	Erven
770	MELODING	5762	0	28°8'52.75S	26°53'12.64E	Erven
771	MELODING	5776	0	28°8'56.37S	26°53'12.26E	Erven
772	MELODING	5778	0	28°8'55.62S	26°53'12.07E	Erven
773	MELODING	4454	0	28°9'1.26S	26°53'22.64E	Erven
774	MELODING	5344	0	28°8'36.5S	26°53'16.94E	Erven
775	MELODING	13057	0	28°9'15.99S	26°53'21.18E	Erven
776	MELODING	12184	0	28°8'27.89S	26°53'46.83E	Erven
777	MELODING	12186	0	28°8'28.63S	26°53'46.53E	Erven
778	MELODING	12602	0	28°8'58.45S	26°53'15.08E	Erven
779	MELODING	12604	0	28°8'59.12S	26°53'15.87E	Erven
780	MELODING	6200	0	28°8'42.76S	26°53'3.34E	Erven
781	MELODING	6202	0	28°8'43.32S	26°53'2.73E	Erven
782	MELODING	5323	0	28°8'42.3S	26°53'23.7E	Erven
783	MELODING	5325	0	28°8'41.67S	26°53'22.96E	Erven
784	MELODING	4434	0	28°8'55.23S	26°53'25.98E	Erven
785	MELODING	4436	0	28°8'55.8S	26°53'25.37E	Erven
786	MELODING	3398	0	28°8'41.36S	26°53'36.6E	Erven
787	MELODING	3400	0	28°8'40.82S	26°53'35.97E	Erven
788	MELODING	2538	0	28°8'35.51S	26°53'46.13E	Erven
789	MELODING	2540	0	28°8'35.25S	26°53'45.27E	Erven
790	MELODING	2968	0	28°8'37.04S	26°53'31.61E	Erven
791	MELODING	2970	0	28°8'36.38S	26°53'32.07E	Erven
792	MELODING	3583	0	28°8'48.79S	26°53'42.08E	Erven
793	MELODING	3585	0	28°8'48.15S	26°53'42.59E	Erven
794	MELODING	4172	0	28°8'52.23S	26°53'32.66E	Erven
795	MELODING	4174	0	28°8'51.68S	26°53'32.03E	Erven
796	MELODING	3154	0	28°8'50.61S	26°53'37.92E	Erven
797	MELODING	3156	0	28°8'51.26S	26°53'38.68E	Erven
798	MELODING	2283	0	28°8'35.16S	26°53'58.51E	Erven
799	MELODING	2285	0	28°8'35.91S	26°53'58.7E	Erven
800	MELODING	12580	0	28°8'23.22S	26°53'14.43E	Erven
801	MELODING	12582	0	28°8'22.61S	26°53'15.06E	Erven
802	MELODING	12173	0	28°8'26.41S	26°53'44.01E	Erven
803	MELODING	12175	0	28°8'25.49S	26°53'44.38E	Erven
804	MELODING	6175	0	28°8'40.06S	26°53'2.71E	Erven
805	MELODING	6177	0	28°8'39.5S	26°53'3.32E	Erven
806	MELODING	5508	0	28°8'48.74S	26°53'17.91E	Erven
807	MELODING	5506	0	28°8'48.18S	26°53'18.52E	Erven
808	MELODING	5748	0	28°8'53.49S	26°53'12.85E	Erven

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809	MELODING	4402	0	28°9'3.16S	26°53'23.83E	Erven
810	MELODING	4419	0	28°8'58.31S	26°53'29.35E	Erven
811	MELODING	4422	0	28°8'57.73S	26°53'30.64E	Erven
812	MELODING	3818	0	28°8'36.06S	26°54'0.44E	Erven
813	MELODING	3822	0	28°8'28.52S	26°53'59.27E	Erven
814	MELODING	3826	0	28°8'30.04S	26°53'59.66E	Erven
815	MELODING	2952	0	28°8'38.04S	26°53'31.76E	Erven
816	MELODING	2954	0	28°8'38.71S	26°53'31.3E	Erven
817	MELODING	3394	0	28°8'42.45S	26°53'37.86E	Erven
818	MELODING	2122	0	28°8'22.03S	26°53'19.48E	Erven
819	MELODING	2529	0	28°8'37.7S	26°53'49.55E	Erven
820	MELODING	2531	0	28°8'37.2S	26°53'48.76E	Erven
821	MELODING	3128	0	28°8'43.62S	26°53'30.69E	Erven
822	MELODING	3130	0	28°8'44.2S	26°53'29.99E	Erven
823	MELODING	2265	0	28°8'33.08S	26°54'1.48E	Erven
824	MELODING	2689	0	28°8'28.96S	26°53'20.08E	Erven
825	MELODING	2705	0	28°8'31.22S	26°53'14.17E	Erven
826	MELODING	2707	0	28°8'30.68S	26°53'13.53E	Erven
827	MELODING	5764	0	28°8'52.17S	26°53'13.27E	Erven
828	MELODING	5771	0	28°8'54.9S	26°53'13.86E	Erven
829	MELODING	5775	0	28°8'56.07S	26°53'12.59E	Erven
830	MELODING	5783	0	28°8'54.17S	26°53'13.64E	Erven
831	MELODING	4448	0	28°8'59.17S	26°53'21.7E	Erven
832	MELODING	2983	0	28°8'34S	26°53'33.93E	Erven
833	MELODING	2990	0	28°8'35.78S	26°53'34.72E	Erven
834	MELODING	3426	0	28°8'45.27S	26°53'38.53E	Erven
835	MELODING	4182	0	28°8'49.51S	26°53'29.5E	Erven
836	MELODING	4194	0	28°8'49.95S	26°53'28.42E	Erven
837	MELODING	3164	0	28°8'49.71S	26°53'35.8E	Erven
838	MELODING	3594	0	28°8'45.28S	26°53'44.88E	Erven
839	MELODING	3601	0	28°8'46.22S	26°53'48.71E	Erven
840	MELODING	2728	0	28°8'31.36S	26°53'16.44E	Erven
841	MELODING	2735	0	28°8'29.36S	26°53'18.62E	Erven
842	MELODING	2742	0	28°8'27.36S	26°53'20.79E	Erven
843	MELODING	1907	0	28°8'25.17S	26°53'33.32E	Erven
844	MELODING	2298	0	28°8'40.5S	26°53'57.71E	Erven
845	MELODING	2305	0	28°8'42.9S	26°53'55.85E	Erven
846	MELODING	1569	0	28°8'16.31S	26°53'24.73E	Erven
847	MELODING	1912	0	28°8'23.42S	26°53'33.56E	Erven
848	MELODING	12630	0	28°9'6.58S	26°53'5.72E	Erven
849	MELODING	12638	0	28°9'9.05S	26°53'6.7E	Erven
850	MELODING	12649	0	28°9'12.11S	26°53'10.29E	Erven
851	MELODING	5787	0	28°8'29.25S	26°53'6.2E	Erven
852	MELODING	6224	0	28°8'46.09S	26°53'0.81E	Erven
853	MELODING	6235	0	28°8'42.31S	26°53'2.81E	Erven
854	MELODING	4461	0	28°9'1.72S	26°53'22.13E	Erven
855	MELODING	4471	0	28°8'57.31S	26°53'22.7E	Erven
856	MELODING	4478	0	28°8'55.34S	26°53'24.84E	Erven
857	MELODING	3445	0	28°8'43.8S	26°53'35.22E	Erven
858	MELODING	4034	0	28°8'56.72S	26°53'35.88E	Erven
859	MELODING	4041	0	28°8'57.73S	26°53'33.03E	Erven
860	MELODING	4639	0	28°9'6.05S	26°53'24.72E	Erven
861	MELODING	4649	0	28°9'9.94S	26°53'25.89E	Erven
862	MELODING	4653	0	28°9'10.84S	26°53'27.33E	Erven
863	MELODING	4660	0	28°9'11.15S	26°53'26.55E	Erven
864	MELODING	3611	0	28°8'47.43S	26°53'49.36E	Erven
865	MELODING	4205	0	28°8'52.93S	26°53'31.9E	Erven
866	MELODING	4212	0	28°8'54.97S	26°53'34.17E	Erven
867	MELODING	3174	0	28°8'47.01S	26°53'32.64E	Erven
868	MELODING	3185	0	28°8'36.68S	26°53'39.05E	Erven

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869	MELODING	3192	0	28°8'38.9S	26°53'37.27E	Erven
870	MELODING	2751	0	28°8'30.12S	26°53'20.65E	Erven
871	MELODING	1917	0	28°8'21.76S	26°53'32.53E	Erven
872	MELODING	1925	0	28°8'23.09S	26°53'30.93E	Erven
873	MELODING	1580	0	28°8'17.52S	26°53'30.53E	Erven
874	MELODING	12654	0	28°9'13.47S	26°53'11.88E	Erven
875	MELODING	12659	0	28°9'14.91S	26°53'13.62E	Erven
876	MELODING	6237	0	28°8'41.75S	26°53'3.42E	Erven
877	MELODING	5816	0	28°8'35.66S	26°53'16.15E	Erven
878	MELODING	4398	0	28°9'3.03S	26°53'25.14E	Erven
879	MELODING	3797	0	28°8'54.53S	26°53'39.67E	Erven
880	MELODING	3799	0	28°8'53.81S	26°53'39.34E	Erven
881	MELODING	2933	0	28°8'37.06S	26°53'29.43E	Erven
882	MELODING	2935	0	28°8'36.4S	26°53'29.9E	Erven
883	MELODING	3374	0	28°8'43.33S	26°53'39.95E	Erven
884	MELODING	3377	0	28°8'47.58S	26°53'41.11E	Erven
885	MELODING	2508	0	28°8'34.11S	26°53'43.87E	Erven
886	MELODING	2510	0	28°8'34.37S	26°53'44.69E	Erven
887	MELODING	1685	0	28°8'20.89S	26°53'37.56E	Erven
888	MELODING	1687	0	28°8'21.18S	26°53'38.43E	Erven
889	MELODING	2114	0	28°8'24.2S	26°53'22.01E	Erven
890	MELODING	2116	0	28°8'23.65S	26°53'21.38E	Erven
891	MELODING	2676	0	28°8'27.79S	26°53'17.67E	Erven
892	MELODING	2678	0	28°8'27.23S	26°53'18.28E	Erven
893	MELODING	3114	0	28°8'39.3S	26°53'34.69E	Erven
894	MELODING	3116	0	28°8'39.96S	26°53'34.24E	Erven
895	MELODING	2257	0	28°8'31.54S	26°54'3.53E	Erven
896	MELODING	13050	0	28°9'13.76S	26°53'22.97E	Erven
897	MELODING	12579	0	28°8'23.68S	26°53'14.98E	Erven
898	MELODING	12581	0	28°8'22.89S	26°53'14.76E	Erven
899	MELODING	12174	0	28°8'25.95S	26°53'44.19E	Erven
900	MELODING	12176	0	28°8'24.97S	26°53'44.61E	Erven
901	MELODING	6174	0	28°8'40.34S	26°53'2.41E	Erven
902	MELODING	6176	0	28°8'39.78S	26°53'3.01E	Erven
903	MELODING	6178	0	28°8'39.21S	26°53'3.63E	Erven
904	MELODING	2985	0	28°8'34.27S	26°53'34.79E	Erven
905	MELODING	2988	0	28°8'35.12S	26°53'35.21E	Erven
906	MELODING	3427	0	28°8'45S	26°53'38.2E	Erven
907	MELODING	3428	0	28°8'44.72S	26°53'37.88E	Erven
908	MELODING	4187	0	28°8'48.16S	26°53'27.92E	Erven
909	MELODING	4192	0	28°8'49.4S	26°53'27.79E	Erven
910	MELODING	4193	0	28°8'49.68S	26°53'28.1E	Erven
911	MELODING	3165	0	28°8'49.44S	26°53'35.49E	Erven
912	MELODING	3166	0	28°8'49.17S	26°53'35.17E	Erven
913	MELODING	2722	0	28°8'30.21S	26°53'14.04E	Erven
914	MELODING	2723	0	28°8'30.48S	26°53'14.36E	Erven
915	MELODING	2737	0	28°8'28.79S	26°53'19.24E	Erven
916	MELODING	2740	0	28°8'27.93S	26°53'20.17E	Erven
917	MELODING	2741	0	28°8'27.65S	26°53'20.48E	Erven
918	MELODING	1908	0	28°8'24.81S	26°53'33.47E	Erven
919	MELODING	1909	0	28°8'24.44S	26°53'33.62E	Erven
920	MELODING	12636	0	28°9'8.51S	26°53'6.07E	Erven
921	MELODING	12637	0	28°9'8.77S	26°53'6.39E	Erven
922	MELODING	12650	0	28°9'12.39S	26°53'10.61E	Erven
923	MELODING	12651	0	28°9'12.66S	26°53'10.92E	Erven
924	MELODING	6222	0	28°8'46.87S	26°53'0.83E	Erven
925	MELODING	6223	0	28°8'46.48S	26°53'0.82E	Erven
926	MELODING	4455	0	28°9'1.52S	26°53'22.95E	Erven
927	MELODING	4456	0	28°9'1.79S	26°53'23.27E	Erven
928	MELODING	4476	0	28°8'55.91S	26°53'24.23E	Erven

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929	MELODING	4477	0	28°8'55.62S	26°53'24.53E	Erven
930	MELODING	3447	0	28°8'44.36S	26°53'35.88E	Erven
931	MELODING	4032	0	28°8'56.43S	26°53'36.7E	Erven
932	MELODING	4644	0	28°9'8.09S	26°53'25.06E	Erven
933	MELODING	4648	0	28°9'9.69S	26°53'25.41E	Erven
934	MELODING	3606	0	28°8'47.35S	26°53'50.5E	Erven
935	MELODING	3609	0	28°8'47.88S	26°53'50.08E	Erven
936	MELODING	4206	0	28°8'53.19S	26°53'32.22E	Erven
937	MELODING	4207	0	28°8'53.47S	26°53'32.53E	Erven
938	MELODING	3179	0	28°8'45.65S	26°53'31.05E	Erven
939	MELODING	3180	0	28°8'45.39S	26°53'30.73E	Erven
940	MELODING	2746	0	28°8'31.52S	26°53'19.12E	Erven
941	MELODING	2749	0	28°8'30.68S	26°53'20.04E	Erven
942	MELODING	1918	0	28°8'21.64S	26°53'32.08E	Erven
943	MELODING	1919	0	28°8'21.51S	26°53'31.65E	Erven
944	MELODING	12660	0	28°9'15.17S	26°53'14.03E	Erven
945	MELODING	12661	0	28°9'15.41S	26°53'14.41E	Erven
946	MELODING	4479	0	28°8'55.06S	26°53'25.14E	Erven
947	MELODING	4480	0	28°8'54.79S	26°53'25.45E	Erven
948	MELODING	5386	0	28°8'47.74S	26°53'23.31E	Erven
949	MELODING	5387	0	28°8'48.02S	26°53'23.01E	Erven
950	MELODING	4055	0	28°8'54.96S	26°53'37.3E	Erven
951	MELODING	4056	0	28°8'54.59S	26°53'37.13E	Erven
952	MELODING	1889	0	28°8'25.73S	26°53'27.33E	Erven
953	MELODING	1891	0	28°8'26.2S	26°53'28.05E	Erven
954	MELODING	12191	0	28°8'28.4S	26°53'45.84E	Erven
955	MELODING	6205	0	28°8'44.22S	26°53'1.71E	Erven
956	MELODING	6207	0	28°8'45.3S	26°53'1.53E	Erven
957	MELODING	6214	0	28°8'48.03S	26°53'1.59E	Erven
958	MELODING	5772	0	28°8'55.2S	26°53'13.54E	Erven
959	MELODING	5774	0	28°8'55.78S	26°53'12.92E	Erven
960	MELODING	5782	0	28°8'54.46S	26°53'13.33E	Erven
961	MELODING	4440	0	28°8'56.92S	26°53'24.15E	Erven
962	MELODING	2984	0	28°8'34.14S	26°53'34.35E	Erven
963	MELODING	2989	0	28°8'35.45S	26°53'34.95E	Erven
964	MELODING	2991	0	28°8'36.12S	26°53'34.49E	Erven
965	MELODING	4180	0	28°8'50.06S	26°53'30.14E	Erven
966	MELODING	4183	0	28°8'49.25S	26°53'29.18E	Erven
967	MELODING	4195	0	28°8'50.22S	26°53'28.74E	Erven
968	MELODING	4197	0	28°8'50.76S	26°53'29.37E	Erven
969	MELODING	3602	0	28°8'46.45S	26°53'49.07E	Erven
970	MELODING	3604	0	28°8'46.9S	26°53'49.79E	Erven
971	MELODING	2725	0	28°8'31.02S	26°53'14.99E	Erven
972	MELODING	2727	0	28°8'31.56S	26°53'15.62E	Erven
973	MELODING	1904	0	28°8'26.28S	26°53'32.87E	Erven
974	MELODING	1906	0	28°8'25.54S	26°53'33.17E	Erven
975	MELODING	2297	0	28°8'40.18S	26°53'57.96E	Erven
976	MELODING	2299	0	28°8'40.81S	26°53'57.45E	Erven
977	MELODING	1911	0	28°8'23.76S	26°53'33.78E	Erven
978	MELODING	12646	0	28°9'11.21S	26°53'9.23E	Erven
979	MELODING	12648	0	28°9'11.75S	26°53'9.87E	Erven
980	MELODING	1877	0	28°8'25.77S	26°53'22.2E	Erven
981	MELODING	1879	0	28°8'25.83S	26°53'23.05E	Erven
982	MELODING	13058	0	28°9'16.31S	26°53'20.93E	Erven
983	MELODING	13060	0	28°9'16.94S	26°53'20.42E	Erven
984	MELODING	12179	0	28°8'25.98S	26°53'47.72E	Erven
985	MELODING	12181	0	28°8'26.79S	26°53'47.28E	Erven
986	MELODING	12607	0	28°8'59.95S	26°53'12.93E	Erven
987	MELODING	12609	0	28°9'0.51S	26°53'12.32E	Erven
988	MELODING	5752	0	28°8'54.65S	26°53'11.6E	Erven

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989	MELODING	5754	0	28°8'55.24S	26°53'10.93E	Erven
990	MELODING	6197	0	28°8'41.92S	26°53'4.26E	Erven
991	MELODING	6199	0	28°8'42.48S	26°53'3.64E	Erven
992	MELODING	5326	0	28°8'41.4S	26°53'22.65E	Erven
993	MELODING	5328	0	28°8'40.85S	26°53'22.01E	Erven
994	MELODING	4429	0	28°8'55.44S	26°53'28.35E	Erven
995	MELODING	4431	0	28°8'54.9S	26°53'27.72E	Erven
996	MELODING	3401	0	28°8'40.55S	26°53'35.64E	Erven
997	MELODING	3403	0	28°8'41.16S	26°53'34.78E	Erven
998	MELODING	3419	0	28°8'45.63S	26°53'40E	Erven
999	MELODING	2535	0	28°8'36.23S	26°53'47.27E	Erven
1000	MELODING	2973	0	28°8'35.38S	26°53'32.76E	Erven
1001	MELODING	2975	0	28°8'33.97S	26°53'35.88E	Erven
1002	MELODING	3578	0	28°8'50.45S	26°53'41.63E	Erven
1003	MELODING	3580	0	28°8'49.73S	26°53'41.32E	Erven
1004	MELODING	2712	0	28°8'29.33S	26°53'11.95E	Erven
1005	MELODING	5509	0	28°8'49.04S	26°53'17.61E	Erven
1006	MELODING	5507	0	28°8'48.46S	26°53'18.2E	Erven
1007	MELODING	5747	0	28°8'53.2S	26°53'13.17E	Erven
1008	MELODING	5749	0	28°8'53.78S	26°53'12.54E	Erven
1009	MELODING	4416	0	28°8'59.11S	26°53'28.38E	Erven
1010	MELODING	4421	0	28°8'57.99S	26°53'30.34E	Erven
1011	MELODING	3821	0	28°8'28.14S	26°53'59.17E	Erven
1012	MELODING	3825	0	28°8'29.66S	26°53'59.56E	Erven
1013	MELODING	2953	0	28°8'38.38S	26°53'31.53E	Erven
1014	MELODING	2955	0	28°8'39.04S	26°53'31.06E	Erven
1015	MELODING	2121	0	28°8'22.3S	26°53'19.8E	Erven
1016	MELODING	2125	0	28°8'21.13S	26°53'19.64E	Erven
1017	MELODING	2528	0	28°8'37.24S	26°53'49.84E	Erven
1018	MELODING	2530	0	28°8'37.45S	26°53'49.13E	Erven
1019	MELODING	2532	0	28°8'36.96S	26°53'48.39E	Erven
1020	MELODING	3129	0	28°8'43.9S	26°53'30.38E	Erven
1021	MELODING	3132	0	28°8'44.65S	26°53'30.93E	Erven
1022	MELODING	2266	0	28°8'32.53S	26°54'1.4E	Erven
1023	MELODING	2690	0	28°8'29.24S	26°53'19.77E	Erven
1024	MELODING	2703	0	28°8'31.76S	26°53'14.8E	Erven
1025	MELODING	2706	0	28°8'30.95S	26°53'13.85E	Erven
1026	MELODING	2708	0	28°8'30.41S	26°53'13.22E	Erven
1027	MELODING	1876	0	28°8'25.45S	26°53'21.9E	Erven
1028	MELODING	1878	0	28°8'25.87S	26°53'22.6E	Erven
1029	MELODING	13059	0	28°9'16.62S	26°53'20.67E	Erven
1030	MELODING	13061	0	28°9'17.26S	26°53'20.17E	Erven
1031	MELODING	12180	0	28°8'26.43S	26°53'47.43E	Erven
1032	MELODING	12182	0	28°8'27.16S	26°53'47.13E	Erven
1033	MELODING	4481	0	28°8'55.62S	26°53'27.11E	Erven
1034	MELODING	5385	0	28°8'47.46S	26°53'23.62E	Erven
1035	MELODING	4043	0	28°8'57.29S	26°53'32.32E	Erven
1036	MELODING	4050	0	28°8'56.26S	26°53'35.2E	Erven
1037	MELODING	4485	0	28°8'56.92S	26°53'26.68E	Erven
1038	MELODING	5544	0	28°8'47.76S	26°53'21.64E	Erven
1039	MELODING	4216	0	28°8'55.16S	26°53'33.45E	Erven
1040	MELODING	4223	0	28°8'53.12S	26°53'31.08E	Erven
1041	MELODING	4672	0	28°9'7.03S	26°53'24.14E	Erven
1042	MELODING	3621	0	28°8'46.86S	26°53'46.74E	Erven
1043	MELODING	3628	0	28°8'49.12S	26°53'44.95E	Erven
1044	MELODING	3639	0	28°8'52.61S	26°53'42.15E	Erven
1045	MELODING	2763	0	28°8'27.62S	26°53'24.91E	Erven
1046	MELODING	2770	0	28°8'28.56S	26°53'27.85E	Erven
1047	MELODING	3202	0	28°8'36.58S	26°53'38.12E	Erven
1048	MELODING	2334	0	28°8'34.52S	26°53'53.5E	Erven

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1049	MELODING	2343	0	28°8'33.38S	26°53'55.69E	Erven
1050	MELODING	1584	0	28°8'18.05S	26°53'32.18E	Erven
1051	MELODING	1941	0	28°8'25.25S	26°53'32.08E	Erven
1052	MELODING	1948	0	28°8'24.03S	26°53'31.74E	Erven
1053	MELODING	1586	0	28°8'18.31S	26°53'33.01E	Erven
1054	MELODING	12667	0	28°9'16.81S	26°53'16.64E	Erven
1055	MELODING	12675	0	28°9'14.4S	26°53'19.31E	Erven
1056	MELODING	12682	0	28°9'13.5S	26°53'20.92E	Erven
1057	MELODING	6253	0	28°8'40.8S	26°53'8.01E	Erven
1058	MELODING	6263	0	28°8'43.61S	26°53'4.96E	Erven
1059	MELODING	12606	0	28°8'59.66S	26°53'13.24E	Erven
1060	MELODING	12608	0	28°9'0.23S	26°53'12.63E	Erven
1061	MELODING	12610	0	28°9'0.8S	26°53'12.01E	Erven
1062	MELODING	5751	0	28°8'54.36S	26°53'11.91E	Erven
1063	MELODING	5753	0	28°8'54.94S	26°53'11.27E	Erven
1064	MELODING	6195	0	28°8'41.36S	26°53'4.87E	Erven
1065	MELODING	6198	0	28°8'42.2S	26°53'3.95E	Erven
1066	MELODING	5327	0	28°8'41.12S	26°53'22.33E	Erven
1067	MELODING	5329	0	28°8'40.59S	26°53'21.69E	Erven
1068	MELODING	4430	0	28°8'55.17S	26°53'28.04E	Erven
1069	MELODING	4432	0	28°8'54.49S	26°53'25.79E	Erven
1070	MELODING	3402	0	28°8'40.24S	26°53'35.33E	Erven
1071	MELODING	3404	0	28°8'41.5S	26°53'35.17E	Erven
1072	MELODING	3418	0	28°8'45.35S	26°53'39.68E	Erven
1073	MELODING	3420	0	28°8'46.03S	26°53'40.46E	Erven
1074	MELODING	2536	0	28°8'35.99S	26°53'46.9E	Erven
1075	MELODING	2972	0	28°8'35.71S	26°53'32.53E	Erven
1076	MELODING	2974	0	28°8'35.05S	26°53'32.99E	Erven
1077	MELODING	3579	0	28°8'50.08S	26°53'41.05E	Erven
1078	MELODING	3581	0	28°8'49.42S	26°53'41.57E	Erven
1079	MELODING	2711	0	28°8'29.59S	26°53'12.27E	Erven
1080	MELODING	2713	0	28°8'29.05S	26°53'11.63E	Erven
1081	MELODING	2715	0	28°8'28.28S	26°53'11.77E	Erven
1082	MELODING	3150	0	28°8'49.51S	26°53'36.63E	Erven
1083	MELODING	3152	0	28°8'50.06S	26°53'37.26E	Erven
1084	MELODING	2287	0	28°8'36.67S	26°53'58.89E	Erven
1085	MELODING	2289	0	28°8'37.44S	26°53'59.09E	Erven
1086	MELODING	1885	0	28°8'25.79S	26°53'25.69E	Erven
1087	MELODING	1887	0	28°8'25.47S	26°53'26.75E	Erven
1088	MELODING	12626	0	28°9'5.45S	26°53'6.94E	Erven
1089	MELODING	12628	0	28°9'6.01S	26°53'6.33E	Erven
1090	MELODING	12193	0	28°8'27.67S	26°53'46.14E	Erven
1091	MELODING	12195	0	28°8'26.94S	26°53'46.44E	Erven
1092	MELODING	6203	0	28°8'43.6S	26°53'2.42E	Erven
1093	MELODING	5768	0	28°8'54.04S	26°53'14.8E	Erven
1094	MELODING	5770	0	28°8'54.62S	26°53'14.17E	Erven
1095	MELODING	4442	0	28°8'57.48S	26°53'23.54E	Erven
1096	MELODING	4444	0	28°8'58.04S	26°53'22.93E	Erven
1097	MELODING	2993	0	28°8'36.78S	26°53'34.02E	Erven
1098	MELODING	2995	0	28°8'37.44S	26°53'33.56E	Erven
1099	MELODING	3422	0	28°8'46.37S	26°53'39.81E	Erven
1100	MELODING	4175	0	28°8'51.41S	26°53'31.72E	Erven
1101	MELODING	4178	0	28°8'50.6S	26°53'30.77E	Erven
1102	MELODING	3158	0	28°8'51.39S	26°53'37.77E	Erven
1103	MELODING	3160	0	28°8'50.8S	26°53'37.07E	Erven
1104	MELODING	3596	0	28°8'44.65S	26°53'45.39E	Erven
1105	MELODING	3598	0	28°8'45.55S	26°53'47.63E	Erven
1106	MELODING	3600	0	28°8'46S	26°53'48.35E	Erven
1107	MELODING	2729	0	28°8'31.08S	26°53'16.75E	Erven
1108	MELODING	2731	0	28°8'30.5S	26°53'17.38E	Erven

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1109	MELODING	1900	0	28°8'27.68S	26°53'32.19E	Erven
1110	MELODING	1902	0	28°8'27.01S	26°53'32.57E	Erven
1111	MELODING	2301	0	28°8'41.45S	26°53'56.94E	Erven
1112	MELODING	2303	0	28°8'42.08S	26°53'56.43E	Erven
1113	MELODING	1570	0	28°8'16.01S	26°53'24.9E	Erven
1114	MELODING	2714	0	28°8'28.74S	26°53'11.28E	Erven
1115	MELODING	3151	0	28°8'49.79S	26°53'36.95E	Erven
1116	MELODING	3153	0	28°8'50.32S	26°53'37.58E	Erven
1117	MELODING	2288	0	28°8'37.05S	26°53'58.99E	Erven
1118	MELODING	2290	0	28°8'37.81S	26°53'59.19E	Erven
1119	MELODING	1886	0	28°8'25.81S	26°53'26.42E	Erven
1120	MELODING	1888	0	28°8'25.2S	26°53'27.07E	Erven
1121	MELODING	13078	0	28°9'12.39S	26°53'23.18E	Erven
1122	MELODING	12627	0	28°9'5.73S	26°53'6.64E	Erven
1123	MELODING	12629	0	28°9'6.3S	26°53'6.03E	Erven
1124	MELODING	12194	0	28°8'27.3S	26°53'46.29E	Erven
1125	MELODING	12196	0	28°8'26.57S	26°53'46.6E	Erven
1126	MELODING	6204	0	28°8'43.88S	26°53'2.11E	Erven
1127	MELODING	5767	0	28°8'53.75S	26°53'15.12E	Erven
1128	MELODING	5769	0	28°8'54.33S	26°53'14.49E	Erven
1129	MELODING	4441	0	28°8'57.2S	26°53'23.84E	Erven
1130	MELODING	4443	0	28°8'57.76S	26°53'23.23E	Erven
1131	MELODING	2994	0	28°8'37.11S	26°53'33.79E	Erven
1132	MELODING	3421	0	28°8'46.66S	26°53'40.15E	Erven
1133	MELODING	4176	0	28°8'51.14S	26°53'31.4E	Erven
1134	MELODING	3157	0	28°8'51.77S	26°53'38.2E	Erven
1135	MELODING	3159	0	28°8'51.09S	26°53'37.41E	Erven
1136	MELODING	3597	0	28°8'45.19S	26°53'47.23E	Erven
1137	MELODING	3599	0	28°8'45.78S	26°53'48E	Erven
1138	MELODING	2730	0	28°8'30.79S	26°53'17.07E	Erven
1139	MELODING	2732	0	28°8'30.22S	26°53'17.69E	Erven
1140	MELODING	5549	0	28°8'49.25S	26°53'20.01E	Erven
1141	MELODING	4214	0	28°8'55.62S	26°53'34.05E	Erven
1142	MELODING	4665	0	28°9'9.89S	26°53'24.64E	Erven
1143	MELODING	4666	0	28°9'9.34S	26°53'24.53E	Erven
1144	MELODING	3626	0	28°8'48.48S	26°53'45.46E	Erven
1145	MELODING	3627	0	28°8'48.8S	26°53'45.21E	Erven
1146	MELODING	3641	0	28°8'53.31S	26°53'41.62E	Erven
1147	MELODING	2761	0	28°8'27.64S	26°53'24.01E	Erven
1148	MELODING	3196	0	28°8'38.53S	26°53'36.66E	Erven
1149	MELODING	3197	0	28°8'38.2S	26°53'36.9E	Erven
1150	MELODING	2341	0	28°8'33.56S	26°53'54.84E	Erven
1151	MELODING	2342	0	28°8'33.47S	26°53'55.27E	Erven
1152	MELODING	1585	0	28°8'18.18S	26°53'32.59E	Erven
1153	MELODING	1938	0	28°8'24.22S	26°53'32.51E	Erven
1154	MELODING	12669	0	28°9'16.31S	26°53'17.78E	Erven
1155	MELODING	12670	0	28°9'16S	26°53'18.03E	Erven
1156	MELODING	6257	0	28°8'41.93S	26°53'6.8E	Erven
1157	MELODING	6258	0	28°8'42.21S	26°53'6.49E	Erven
1158	MELODING	5393	0	28°8'49.8S	26°53'21.07E	Erven
1159	MELODING	5394	0	28°8'50.08S	26°53'20.76E	Erven
1160	MELODING	5829	0	28°8'39.26S	26°53'12.21E	Erven
1161	MELODING	5834	0	28°8'37.7S	26°53'12.92E	Erven
1162	MELODING	4509	0	28°8'56.75S	26°53'25.85E	Erven
1163	MELODING	4510	0	28°8'56.47S	26°53'26.16E	Erven
1164	MELODING	5986	0	28°8'43.05S	26°53'8.11E	Erven
1165	MELODING	5990	0	28°8'44.17S	26°53'6.89E	Erven
1166	MELODING	6006	0	28°8'46.69S	26°53'2.62E	Erven
1167	MELODING	4752	0	28°9'10.18S	26°53'32.58E	Erven
1168	MELODING	4760	0	28°9'11.4S	26°53'30.71E	Erven

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1169	MELODING	4764	0	28°9'10.12S	26°53'31.72E	Erven
1170	MELODING	4773	0	28°9'7.26S	26°53'34.02E	Erven
1171	MELODING	3750	0	28°8'53.8S	26°53'44.8E	Erven
1172	MELODING	3757	0	28°8'51.57S	26°53'46.58E	Erven
1173	MELODING	4343	0	28°8'56.85S	26°53'21.51E	Erven
1174	MELODING	4350	0	28°8'56.96S	26°53'20.37E	Erven
1175	MELODING	3313	0	28°8'42.18S	26°53'42.74E	Erven
1176	MELODING	3320	0	28°8'39.94S	26°53'44.53E	Erven
1177	MELODING	3324	0	28°8'38.67S	26°53'45.54E	Erven
1178	MELODING	3331	0	28°8'41.29S	26°53'46.6E	Erven
1179	MELODING	2455	0	28°8'36.77S	26°53'53.94E	Erven
1180	MELODING	2889	0	28°8'35.23S	26°53'22.72E	Erven
1181	MELODING	2896	0	28°8'33.98S	26°53'31.57E	Erven
1182	MELODING	2050	0	28°8'23.35S	26°53'26.33E	Erven
1183	MELODING	2061	0	28°8'20.37S	26°53'22.84E	Erven
1184	MELODING	2068	0	28°8'22.71S	26°53'23.98E	Erven
1185	MELODING	1646	0	28°8'30.97S	26°53'32.58E	Erven
1186	MELODING	1803	0	28°8'26.33S	26°53'34.91E	Erven
1187	MELODING	1810	0	28°8'23.71S	26°53'36.03E	Erven
1188	MELODING	12535	0	28°8'21.49S	26°53'13.59E	Erven
1189	MELODING	12542	0	28°8'19.53S	26°53'15.73E	Erven
1190	MELODING	12998	0	28°9'18.5S	26°53'23.67E	Erven
1191	MELODING	12110	0	28°8'24.64S	26°53'47.15E	Erven
1192	MELODING	12117	0	28°8'23.71S	26°53'44.27E	Erven
1193	MELODING	12124	0	28°8'25.84S	26°53'53.02E	Erven
1194	MELODING	6127	0	28°8'40.79S	26°53'2.94E	Erven
1195	MELODING	6558	0	28°9'3.27S	26°53'6.42E	Erven
1196	MELODING	5684	0	28°8'47.91S	26°53'7.77E	Erven
1197	MELODING	4678	0	28°9'4.96S	26°53'24.86E	Erven
1198	MELODING	4679	0	28°9'3.15S	26°53'26.83E	Erven
1199	MELODING	5566	0	28°8'46.75S	26°53'21.72E	Erven
1200	MELODING	5567	0	28°8'46.46S	26°53'22.03E	Erven
1201	MELODING	4236	0	28°8'49.6S	26°53'26.96E	Erven
1202	MELODING	4239	0	28°8'49.75S	26°53'25.54E	Erven
1203	MELODING	3210	0	28°8'38.25S	26°53'40.04E	Erven
1204	MELODING	3211	0	28°8'38.56S	26°53'39.79E	Erven
1205	MELODING	3648	0	28°8'51.29S	26°53'42.32E	Erven
1206	MELODING	3649	0	28°8'50.97S	26°53'42.57E	Erven
1207	MELODING	3652	0	28°8'50.01S	26°53'43.33E	Erven
1208	MELODING	2784	0	28°8'28.89S	26°53'23E	Erven
1209	MELODING	2785	0	28°8'29.17S	26°53'22.7E	Erven
1210	MELODING	1959	0	28°8'26.7S	26°53'31.27E	Erven
1211	MELODING	1960	0	28°8'26.99S	26°53'31.54E	Erven
1212	MELODING	2361	0	28°8'37.99S	26°53'51.62E	Erven
1213	MELODING	1599	0	28°8'20.1S	26°53'38.52E	Erven
1214	MELODING	12690	0	28°9'16.05S	26°53'18.88E	Erven
1215	MELODING	12691	0	28°9'16.37S	26°53'18.63E	Erven
1216	MELODING	11782	0	28°8'17.96S	26°53'38.01E	Erven
1217	MELODING	11793	0	28°8'19.49S	26°53'42.75E	Erven
1218	MELODING	6277	0	28°8'43.16S	26°53'4.43E	Erven
1219	MELODING	6278	0	28°8'42.88S	26°53'4.74E	Erven
1220	MELODING	5416	0	28°8'51.68S	26°53'14.82E	Erven
1221	MELODING	5417	0	28°8'51.95S	26°53'15.14E	Erven
1222	MELODING	6009	0	28°8'45.97S	26°53'3.92E	Erven
1223	MELODING	5786	0	28°8'53.3S	26°53'14.59E	Erven
1224	MELODING	5788	0	28°8'29.34S	26°53'6.77E	Erven
1225	MELODING	6225	0	28°8'45.7S	26°53'0.8E	Erven
1226	MELODING	6227	0	28°8'44.92S	26°53'0.79E	Erven
1227	MELODING	5792	0	28°8'29.34S	26°53'8.53E	Erven
1228	MELODING	4458	0	28°9'2.54S	26°53'23.11E	Erven

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1229	MELODING	4460	0	28°9'1.99S	26°53'22.45E	Erven
1230	MELODING	4463	0	28°9'1.18S	26°53'21.49E	Erven
1231	MELODING	3443	0	28°8'43.24S	26°53'34.57E	Erven
1232	MELODING	3446	0	28°8'44.08S	26°53'35.55E	Erven
1233	MELODING	4033	0	28°8'56.57S	26°53'36.3E	Erven
1234	MELODING	4035	0	28°8'56.87S	26°53'35.48E	Erven
1235	MELODING	4659	0	28°9'11.38S	26°53'26.9E	Erven
1236	MELODING	4661	0	28°9'10.92S	26°53'26.19E	Erven
1237	MELODING	3610	0	28°8'47.66S	26°53'49.72E	Erven
1238	MELODING	3612	0	28°8'47.21S	26°53'49.01E	Erven
1239	MELODING	3173	0	28°8'47.28S	26°53'32.95E	Erven
1240	MELODING	3175	0	28°8'46.73S	26°53'32.32E	Erven
1241	MELODING	3182	0	28°8'35.86S	26°53'38.71E	Erven
1242	MELODING	3184	0	28°8'36.36S	26°53'39.3E	Erven
1243	MELODING	1914	0	28°8'22.71S	26°53'33.19E	Erven
1244	MELODING	1916	0	28°8'21.99S	26°53'32.86E	Erven
1245	MELODING	1924	0	28°8'22.71S	26°53'31.08E	Erven
1246	MELODING	1926	0	28°8'23.47S	26°53'30.76E	Erven
1247	MELODING	6236	0	28°8'42.03S	26°53'3.11E	Erven
1248	MELODING	6270	0	28°8'45.67S	26°53'2.7E	Erven
1249	MELODING	5399	0	28°8'51.48S	26°53'19.24E	Erven
1250	MELODING	5824	0	28°8'37.87S	26°53'13.75E	Erven
1251	MELODING	4493	0	28°8'59.17S	26°53'24.24E	Erven
1252	MELODING	4508	0	28°8'57.03S	26°53'25.55E	Erven
1253	MELODING	5403	0	28°8'52.6S	26°53'18.02E	Erven
1254	MELODING	5561	0	28°8'48.24S	26°53'20.09E	Erven
1255	MELODING	5995	0	28°8'45.58S	26°53'5.36E	Erven
1256	MELODING	6004	0	28°8'47.6S	26°53'2.77E	Erven
1257	MELODING	4680	0	28°9'2.87S	26°53'27.14E	Erven
1258	MELODING	4688	0	28°9'3.01S	26°53'34.06E	Erven
1259	MELODING	5572	0	28°8'45.06S	26°53'23.55E	Erven
1260	MELODING	4231	0	28°8'50.96S	26°53'28.54E	Erven
1261	MELODING	4244	0	28°8'51.11S	26°53'27.15E	Erven
1262	MELODING	3205	0	28°8'36.65S	26°53'41.34E	Erven
1263	MELODING	3212	0	28°8'38.88S	26°53'39.54E	Erven
1264	MELODING	3647	0	28°8'51.61S	26°53'42.06E	Erven
1265	MELODING	2348	0	28°8'34.19S	26°53'55E	Erven
1266	MELODING	2779	0	28°8'28.27S	26°53'24.92E	Erven
1267	MELODING	2790	0	28°8'30.57S	26°53'21.17E	Erven
1268	MELODING	1951	0	28°8'24.55S	26°53'28.74E	Erven
1269	MELODING	1961	0	28°8'27.42S	26°53'31.08E	Erven
1270	MELODING	2358	0	28°8'37.04S	26°53'52.38E	Erven
1271	MELODING	1596	0	28°8'19.69S	26°53'37.28E	Erven
1272	MELODING	12692	0	28°9'16.68S	26°53'18.37E	Erven
1273	MELODING	11780	0	28°8'17.69S	26°53'37.06E	Erven
1274	MELODING	1571	0	28°8'15.69S	26°53'25.1E	Erven
1275	MELODING	12642	0	28°9'10.13S	26°53'7.97E	Erven
1276	MELODING	12644	0	28°9'10.67S	26°53'8.6E	Erven
1277	MELODING	5784	0	28°8'53.88S	26°53'13.96E	Erven
1278	MELODING	6229	0	28°8'44S	26°53'0.92E	Erven
1279	MELODING	6231	0	28°8'43.43S	26°53'1.59E	Erven
1280	MELODING	4465	0	28°9'0.62S	26°53'20.85E	Erven
1281	MELODING	4469	0	28°8'57.87S	26°53'22.09E	Erven
1282	MELODING	3437	0	28°8'42.24S	26°53'34.98E	Erven
1283	MELODING	3439	0	28°8'41.65S	26°53'34.33E	Erven
1284	MELODING	3441	0	28°8'42.67S	26°53'33.91E	Erven
1285	MELODING	4037	0	28°8'57.15S	26°53'34.66E	Erven
1286	MELODING	4039	0	28°8'57.44S	26°53'33.84E	Erven
1287	MELODING	4637	0	28°9'5.42S	26°53'25.39E	Erven
1288	MELODING	4655	0	28°9'10.85S	26°53'29.21E	Erven

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1289	MELODING	4657	0	28°9'11.81S	26°53'28.22E	Erven
1290	MELODING	3614	0	28°8'46.75S	26°53'48.28E	Erven
1291	MELODING	3616	0	28°8'46.31S	26°53'47.57E	Erven
1292	MELODING	4201	0	28°8'51.84S	26°53'30.64E	Erven
1293	MELODING	3168	0	28°8'48.63S	26°53'34.54E	Erven
1294	MELODING	3170	0	28°8'48.09S	26°53'33.91E	Erven
1295	MELODING	3186	0	28°8'37S	26°53'38.8E	Erven
1296	MELODING	3188	0	28°8'37.63S	26°53'38.29E	Erven
1297	MELODING	2756	0	28°8'28.72S	26°53'22.17E	Erven
1298	MELODING	2758	0	28°8'28.15S	26°53'22.78E	Erven
1299	MELODING	1901	0	28°8'27.4S	26°53'32.46E	Erven
1300	MELODING	1903	0	28°8'26.64S	26°53'32.72E	Erven
1301	MELODING	2302	0	28°8'41.77S	26°53'56.69E	Erven
1302	MELODING	2304	0	28°8'42.41S	26°53'56.17E	Erven
1303	MELODING	12643	0	28°9'10.4S	26°53'8.29E	Erven
1304	MELODING	12645	0	28°9'10.94S	26°53'8.92E	Erven
1305	MELODING	5785	0	28°8'53.59S	26°53'14.27E	Erven
1306	MELODING	6228	0	28°8'44.51S	26°53'0.74E	Erven
1307	MELODING	6230	0	28°8'43.71S	26°53'1.28E	Erven
1308	MELODING	4464	0	28°9'0.9S	26°53'21.18E	Erven
1309	MELODING	4468	0	28°8'58.15S	26°53'21.79E	Erven
1310	MELODING	3438	0	28°8'41.97S	26°53'34.66E	Erven
1311	MELODING	3440	0	28°8'42.39S	26°53'33.55E	Erven
1312	MELODING	4038	0	28°8'57.29S	26°53'34.25E	Erven
1313	MELODING	4040	0	28°8'57.59S	26°53'33.43E	Erven
1314	MELODING	4654	0	28°9'11.07S	26°53'27.69E	Erven
1315	MELODING	4656	0	28°9'11.99S	26°53'28.52E	Erven
1316	MELODING	3615	0	28°8'46.53S	26°53'47.93E	Erven
1317	MELODING	3617	0	28°8'46.08S	26°53'47.21E	Erven
1318	MELODING	3169	0	28°8'48.36S	26°53'34.22E	Erven
1319	MELODING	3171	0	28°8'47.82S	26°53'33.58E	Erven
1320	MELODING	3187	0	28°8'37.32S	26°53'38.54E	Erven
1321	MELODING	3189	0	28°8'37.96S	26°53'38.03E	Erven
1322	MELODING	2755	0	28°8'29S	26°53'21.86E	Erven
1323	MELODING	6010	0	28°8'45.69S	26°53'4.22E	Erven
1324	MELODING	6454	0	28°9'0.03S	26°53'1.57E	Erven
1325	MELODING	6455	0	28°9'0.31S	26°53'1.89E	Erven
1326	MELODING	5589	0	28°8'49.75S	26°53'5.51E	Erven
1327	MELODING	5593	0	28°8'51.31S	26°53'5.53E	Erven
1328	MELODING	4692	0	28°9'3.91S	26°53'35.49E	Erven
1329	MELODING	4693	0	28°9'4.37S	26°53'32.85E	Erven
1330	MELODING	3659	0	28°8'47.78S	26°53'45.12E	Erven
1331	MELODING	3660	0	28°8'47.47S	26°53'45.37E	Erven
1332	MELODING	4257	0	28°8'54.64S	26°53'31.26E	Erven
1333	MELODING	4260	0	28°8'55.51S	26°53'32.33E	Erven
1334	MELODING	3231	0	28°8'37.48S	26°53'42.91E	Erven
1335	MELODING	3232	0	28°8'37.79S	26°53'42.65E	Erven
1336	MELODING	2369	0	28°8'34.15S	26°53'57.51E	Erven
1337	MELODING	2370	0	28°8'34.53S	26°53'57.6E	Erven
1338	MELODING	2809	0	28°8'32.05S	26°53'22.11E	Erven
1339	MELODING	1964	0	28°8'26.63S	26°53'30.13E	Erven
1340	MELODING	1966	0	28°8'26.08S	26°53'29.5E	Erven
1341	MELODING	1988	0	28°8'22.79S	26°53'29.1E	Erven
1342	MELODING	1602	0	28°8'20.5S	26°53'39.76E	Erven
1343	MELODING	12702	0	28°9'2.7S	26°53'12.54E	Erven
1344	MELODING	12703	0	28°9'3.12S	26°53'12.43E	Erven
1345	MELODING	6291	0	28°8'53.23S	26°53'4.15E	Erven
1346	MELODING	6292	0	28°8'53.51S	26°53'4.5E	Erven
1347	MELODING	6295	0	28°8'54.33S	26°53'5.45E	Erven
1348	MELODING	5851	0	28°8'32.88S	26°53'12.67E	Erven

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1349	MELODING	4354	0	28°8'55.84S	26°53'21.6E	Erven
1350	MELODING	4361	0	28°8'53.88S	26°53'23.74E	Erven
1351	MELODING	4370	0	28°8'54.97S	26°53'28.86E	Erven
1352	MELODING	3762	0	28°8'49.99S	26°53'47.85E	Erven
1353	MELODING	3769	0	28°8'52.1S	26°53'40.19E	Erven
1354	MELODING	3776	0	28°8'55.01S	26°53'40.68E	Erven
1355	MELODING	2898	0	28°8'34.75S	26°53'31.91E	Erven
1356	MELODING	2905	0	28°8'37.07S	26°53'30.29E	Erven
1357	MELODING	2912	0	28°8'39.29S	26°53'28.36E	Erven
1358	MELODING	2071	0	28°8'23.53S	26°53'24.93E	Erven
1359	MELODING	2468	0	28°8'32.75S	26°53'45.02E	Erven
1360	MELODING	2475	0	28°8'33.68S	26°53'47.91E	Erven
1361	MELODING	1651	0	28°8'30.51S	26°53'33.09E	Erven
1362	MELODING	1658	0	28°8'31.92S	26°53'35.64E	Erven
1363	MELODING	2077	0	28°8'22.91S	26°53'23.15E	Erven
1364	MELODING	2081	0	28°8'21.83S	26°53'21.89E	Erven
1365	MELODING	1821	0	28°8'22.79S	26°53'34.04E	Erven
1366	MELODING	2239	0	28°8'30.67S	26°54'1.99E	Erven
1367	MELODING	13004	0	28°9'17.49S	26°53'23.57E	Erven
1368	MELODING	13015	0	28°9'13.7S	26°53'25.25E	Erven
1369	MELODING	13023	0	28°9'16.29S	26°53'23.19E	Erven
1370	MELODING	12130	0	28°8'26.67S	26°53'55.54E	Erven
1371	MELODING	12554	0	28°8'16.01S	26°53'19.3E	Erven
1372	MELODING	6565	0	28°9'1.21S	26°53'8.65E	Erven
1373	MELODING	5700	0	28°8'51.46S	26°53'11.5E	Erven
1374	MELODING	6135	0	28°8'43.03S	26°53'0.49E	Erven
1375	MELODING	6142	0	28°8'45.72S	26°52'59.7E	Erven
1376	MELODING	4795	0	28°9'9.31S	26°53'29.95E	Erven
1377	MELODING	4806	0	28°9'7S	26°53'26.11E	Erven
1378	MELODING	6238	0	28°8'41.47S	26°53'3.73E	Erven
1379	MELODING	6244	0	28°8'39.78S	26°53'5.55E	Erven
1380	MELODING	4482	0	28°8'56.06S	26°53'27.62E	Erven
1381	MELODING	5376	0	28°8'44.93S	26°53'26.37E	Erven
1382	MELODING	4051	0	28°8'56.11S	26°53'35.62E	Erven
1383	MELODING	4053	0	28°8'55.82S	26°53'36.43E	Erven
1384	MELODING	4058	0	28°8'53.87S	26°53'36.81E	Erven
1385	MELODING	4484	0	28°8'56.65S	26°53'26.98E	Erven
1386	MELODING	4663	0	28°9'10.47S	26°53'25.47E	Erven
1387	MELODING	4224	0	28°8'52.85S	26°53'30.76E	Erven
1388	MELODING	4226	0	28°8'52.31S	26°53'30.13E	Erven
1389	MELODING	4669	0	28°9'8.18S	26°53'24.33E	Erven
1390	MELODING	4671	0	28°9'7.41S	26°53'24.2E	Erven
1391	MELODING	4673	0	28°9'6.65S	26°53'24.07E	Erven
1392	MELODING	3636	0	28°8'51.66S	26°53'42.91E	Erven
1393	MELODING	3638	0	28°8'52.29S	26°53'42.41E	Erven
1394	MELODING	3640	0	28°8'52.93S	26°53'41.9E	Erven
1395	MELODING	2762	0	28°8'27.63S	26°53'24.47E	Erven
1396	MELODING	2764	0	28°8'27.62S	26°53'25.35E	Erven
1397	MELODING	2327	0	28°8'36.98S	26°53'51.53E	Erven
1398	MELODING	2335	0	28°8'34.46S	26°53'52.95E	Erven
1399	MELODING	2344	0	28°8'33.3S	26°53'56.15E	Erven
1400	MELODING	2346	0	28°8'34.02S	26°53'55.86E	Erven
1401	MELODING	1949	0	28°8'23.69S	26°53'31.88E	Erven
1402	MELODING	12681	0	28°9'13.14S	26°53'21.2E	Erven
1403	MELODING	12683	0	28°9'13.83S	26°53'20.67E	Erven
1404	MELODING	6250	0	28°8'39.93S	26°53'8.94E	Erven
1405	MELODING	5711	0	28°8'52.19S	26°53'11.72E	Erven
1406	MELODING	4385	0	28°8'59.28S	26°53'29.2E	Erven
1407	MELODING	4392	0	28°9'1.25S	26°53'27.07E	Erven
1408	MELODING	3349	0	28°8'43.13S	26°53'44.22E	Erven

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1409	MELODING	3361	0	28°8'39.74S	26°53'35.76E	Erven
1410	MELODING	3792	0	28°8'56.35S	26°53'40.49E	Erven
1411	MELODING	2489	0	28°8'34.56S	26°53'48.48E	Erven
1412	MELODING	2924	0	28°8'39.82S	26°53'26.79E	Erven
1413	MELODING	2931	0	28°8'37.77S	26°53'28.96E	Erven
1414	MELODING	2092	0	28°8'19.73S	26°53'22.2E	Erven
1415	MELODING	2492	0	28°8'34.16S	26°53'47.24E	Erven
1416	MELODING	1666	0	28°8'18.22S	26°53'29.27E	Erven
1417	MELODING	1677	0	28°8'19.77S	26°53'34.08E	Erven
1418	MELODING	2245	0	28°8'30.33S	26°54'1.37E	Erven
1419	MELODING	2667	0	28°8'28.56S	26°53'17.93E	Erven
1420	MELODING	1831	0	28°8'26.41S	26°53'33.58E	Erven
1421	MELODING	1840	0	28°8'28.29S	26°53'29.44E	Erven
1422	MELODING	1845	0	28°8'26.94S	26°53'27.86E	Erven
1423	MELODING	13025	0	28°9'16.92S	26°53'22.68E	Erven
1424	MELODING	13033	0	28°9'17.5S	26°53'21.32E	Erven
1425	MELODING	12146	0	28°8'29.48S	26°53'42.52E	Erven
1426	MELODING	6154	0	28°8'47.29S	26°52'59E	Erven
1427	MELODING	5714	0	28°8'52.53S	26°53'10.53E	Erven
1428	MELODING	5721	0	28°8'50.64S	26°53'8.32E	Erven
1429	MELODING	6161	0	28°8'44.56S	26°52'58.95E	Erven
1430	MELODING	4814	0	28°9'9.63S	26°53'28.54E	Erven
1431	MELODING	3795	0	28°8'55.25S	26°53'40E	Erven
1432	MELODING	1928	0	28°8'24.24S	26°53'30.45E	Erven
1433	MELODING	1936	0	28°8'22.88S	26°53'32.15E	Erven
1434	MELODING	12656	0	28°9'14.01S	26°53'12.51E	Erven
1435	MELODING	12658	0	28°9'14.6S	26°53'13.18E	Erven
1436	MELODING	6240	0	28°8'40.91S	26°53'4.33E	Erven
1437	MELODING	6242	0	28°8'40.35S	26°53'4.94E	Erven
1438	MELODING	11761	0	28°8'17.23S	26°53'35.54E	Erven
1439	MELODING	5378	0	28°8'45.5S	26°53'25.76E	Erven
1440	MELODING	5380	0	28°8'46.06S	26°53'25.14E	Erven
1441	MELODING	4047	0	28°8'56.7S	26°53'33.98E	Erven
1442	MELODING	4049	0	28°8'56.41S	26°53'34.8E	Erven
1443	MELODING	4486	0	28°8'57.2S	26°53'26.38E	Erven
1444	MELODING	4489	0	28°8'58.05S	26°53'25.47E	Erven
1445	MELODING	5538	0	28°8'46.07S	26°53'23.47E	Erven
1446	MELODING	5540	0	28°8'46.64S	26°53'22.86E	Erven
1447	MELODING	4220	0	28°8'53.94S	26°53'32.02E	Erven
1448	MELODING	4222	0	28°8'53.39S	26°53'31.39E	Erven
1449	MELODING	3194	0	28°8'39.17S	26°53'36.66E	Erven
1450	MELODING	3619	0	28°8'45.51S	26°53'46.95E	Erven
1451	MELODING	3632	0	28°8'50.39S	26°53'43.93E	Erven
1452	MELODING	3634	0	28°8'51.02S	26°53'43.42E	Erven
1453	MELODING	2766	0	28°8'27.58S	26°53'26.42E	Erven
1454	MELODING	2768	0	28°8'28.01S	26°53'27.22E	Erven
1455	MELODING	3204	0	28°8'36.5S	26°53'40.57E	Erven
1456	MELODING	5838	0	28°8'36.6S	26°53'14.12E	Erven
1457	MELODING	6272	0	28°8'44.56S	26°53'2.9E	Erven
1458	MELODING	6283	0	28°8'41.47S	26°53'6.27E	Erven
1459	MELODING	5411	0	28°8'51.21S	26°53'15.33E	Erven
1460	MELODING	5418	0	28°8'52.23S	26°53'15.46E	Erven
1461	MELODING	5422	0	28°8'53.4S	26°53'17E	Erven
1462	MELODING	5847	0	28°8'34.05S	26°53'14.04E	Erven
1463	MELODING	6008	0	28°8'46.25S	26°53'3.61E	Erven
1464	MELODING	6442	0	28°8'57.97S	26°53'0.74E	Erven
1465	MELODING	6449	0	28°8'58.67S	26°52'59.98E	Erven
1466	MELODING	5576	0	28°8'45.35S	26°53'8.45E	Erven
1467	MELODING	5587	0	28°8'48.97S	26°53'5.49E	Erven
1468	MELODING	6015	0	28°8'44.29S	26°53'5.75E	Erven

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1469	MELODING	4692	0	28°9'4.15S	26°53'32.49E	Erven
1470	MELODING	4695	0	28°9'4.59S	26°53'36.57E	Erven
1471	MELODING	3654	0	28°8'49.38S	26°53'43.85E	Erven
1472	MELODING	3665	0	28°8'48.15S	26°53'47.98E	Erven
1473	MELODING	3672	0	28°8'50.37S	26°53'46.2E	Erven
1474	MELODING	2798	0	28°8'32.82S	26°53'18.7E	Erven
1475	MELODING	3230	0	28°8'37.19S	26°53'43.16E	Erven
1476	MELODING	3237	0	28°8'39.39S	26°53'41.38E	Erven
1477	MELODING	2362	0	28°8'38.31S	26°53'51.37E	Erven
1478	MELODING	2375	0	28°8'36.43S	26°53'58.08E	Erven
1479	MELODING	2807	0	28°8'31.49S	26°53'22.72E	Erven
1480	MELODING	1967	0	28°8'25.81S	26°53'29.18E	Erven
1481	MELODING	1987	0	28°8'22.43S	26°53'29.25E	Erven
1482	MELODING	12701	0	28°9'2.42S	26°53'12.92E	Erven
1483	MELODING	12708	0	28°9'3.94S	26°53'11.73E	Erven
1484	MELODING	6290	0	28°8'54.72S	26°53'8.35E	Erven
1485	MELODING	6297	0	28°8'54.87S	26°53'6.08E	Erven
1486	MELODING	5857	0	28°8'31.25S	26°53'10.77E	Erven
1487	MELODING	5864	0	28°8'29.99S	26°53'8.09E	Erven
1488	MELODING	5873	0	28°8'32.11S	26°53'10.19E	Erven
1489	MELODING	6461	0	28°9'1.94S	26°53'3.81E	Erven
1490	MELODING	6025	0	28°8'41.48S	26°53'8.8E	Erven
1491	MELODING	6039	0	28°8'37.1S	26°53'7.05E	Erven
1492	MELODING	4701	0	28°9'5.13S	26°53'32.78E	Erven
1493	MELODING	5597	0	28°8'52.78S	26°53'6.6E	Erven
1494	MELODING	5607	0	28°8'53.83S	26°53'9.94E	Erven
1495	MELODING	4263	0	28°8'56.34S	26°53'31.89E	Erven
1496	MELODING	4271	0	28°8'53.75S	26°53'29.18E	Erven
1497	MELODING	4278	0	28°8'51.86S	26°53'26.96E	Erven
1498	MELODING	4703	0	28°9'4.67S	26°53'32.07E	Erven
1499	MELODING	3246	0	28°8'40.92S	26°53'39.26E	Erven
1500	MELODING	3677	0	28°8'51.96S	26°53'44.92E	Erven
1501	MELODING	3684	0	28°8'54.19S	26°53'43.13E	Erven
1502	MELODING	2814	0	28°8'33.45S	26°53'20.59E	Erven
1503	MELODING	2821	0	28°8'32.44S	26°53'20.67E	Erven
1504	MELODING	2829	0	28°8'30.2S	26°53'23.11E	Erven
1505	MELODING	2378	0	28°8'37.58S	26°53'58.37E	Erven
1506	MELODING	2389	0	28°8'40.66S	26°53'56.23E	Erven
1507	MELODING	2396	0	28°8'40.28S	26°53'55.63E	Erven
1508	MELODING	1611	0	28°8'23.24S	26°53'40.16E	Erven
1509	MELODING	1992	0	28°8'23.96S	26°53'28.04E	Erven
1510	MELODING	2757	0	28°8'28.43S	26°53'22.48E	Erven
1511	MELODING	1913	0	28°8'23.06S	26°53'33.38E	Erven
1512	MELODING	1927	0	28°8'23.85S	26°53'30.6E	Erven
1513	MELODING	1935	0	28°8'22.42S	26°53'30.42E	Erven
1514	MELODING	1576	0	28°8'16.62S	26°53'29.13E	Erven
1515	MELODING	12657	0	28°9'14.28S	26°53'12.82E	Erven
1516	MELODING	6239	0	28°8'41.19S	26°53'4.03E	Erven
1517	MELODING	6241	0	28°8'40.63S	26°53'4.64E	Erven
1518	MELODING	6243	0	28°8'40.07S	26°53'5.25E	Erven
1519	MELODING	11760	0	28°8'17.01S	26°53'34.96E	Erven
1520	MELODING	5377	0	28°8'45.22S	26°53'26.06E	Erven
1521	MELODING	5379	0	28°8'45.78S	26°53'25.45E	Erven
1522	MELODING	4046	0	28°8'56.84S	26°53'33.57E	Erven
1523	MELODING	4048	0	28°8'56.55S	26°53'34.39E	Erven
1524	MELODING	4487	0	28°8'57.49S	26°53'26.07E	Erven
1525	MELODING	4490	0	28°8'58.32S	26°53'25.16E	Erven
1526	MELODING	4664	0	28°9'10.25S	26°53'25.11E	Erven
1527	MELODING	5539	0	28°8'46.35S	26°53'23.17E	Erven
1528	MELODING	4219	0	28°8'54.2S	26°53'32.34E	Erven

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1529	MELODING	4221	0	28°8'53.66S	26°53'31.71E	Erven
1530	MELODING	4674	0	28°9'6.26S	26°53'24.01E	Erven
1531	MELODING	3618	0	28°8'45.85S	26°53'46.68E	Erven
1532	MELODING	3633	0	28°8'50.7S	26°53'43.68E	Erven
1533	MELODING	3635	0	28°8'51.34S	26°53'43.17E	Erven
1534	MELODING	2767	0	28°8'27.69S	26°53'26.9E	Erven
1535	MELODING	5852	0	28°8'32.6S	26°53'12.35E	Erven
1536	MELODING	5871	0	28°8'31.56S	26°53'9.56E	Erven
1537	MELODING	5872	0	28°8'31.84S	26°53'9.87E	Erven
1538	MELODING	6459	0	28°9'1.4S	26°53'3.17E	Erven
1539	MELODING	6035	0	28°8'38.18S	26°53'8.32E	Erven
1540	MELODING	6036	0	28°8'37.91S	26°53'8E	Erven
1541	MELODING	4702	0	28°9'4.9S	26°53'32.42E	Erven
1542	MELODING	5595	0	28°8'52.24S	26°53'5.97E	Erven
1543	MELODING	4264	0	28°8'55.75S	26°53'31.54E	Erven
1544	MELODING	4265	0	28°8'55.37S	26°53'31.07E	Erven
1545	MELODING	4283	0	28°8'50.5S	26°53'25.38E	Erven
1546	MELODING	4284	0	28°8'50.21S	26°53'25.05E	Erven
1547	MELODING	3679	0	28°8'52.6S	26°53'44.41E	Erven
1548	MELODING	3682	0	28°8'53.55S	26°53'43.65E	Erven
1549	MELODING	2815	0	28°8'33.73S	26°53'20.28E	Erven
1550	MELODING	2816	0	28°8'34.02S	26°53'19.94E	Erven
1551	MELODING	3254	0	28°8'38.37S	26°53'41.29E	Erven
1552	MELODING	3255	0	28°8'38.05S	26°53'41.55E	Erven
1553	MELODING	2391	0	28°8'41.29S	26°53'55.72E	Erven
1554	MELODING	2394	0	28°8'40.92S	26°53'55.12E	Erven
1555	MELODING	1612	0	28°8'23.61S	26°53'40.01E	Erven
1556	MELODING	12716	0	28°9'1.12S	26°53'13.31E	Erven
1557	MELODING	12717	0	28°9'0.84S	26°53'13.61E	Erven
1558	MELODING	12732	0	28°9'5.67S	26°53'10.9E	Erven
1559	MELODING	12735	0	28°9'5.23S	26°53'12.13E	Erven
1560	MELODING	2769	0	28°8'28.28S	26°53'27.53E	Erven
1561	MELODING	2324	0	28°8'37.94S	26°53'50.77E	Erven
1562	MELODING	2326	0	28°8'37.3S	26°53'51.28E	Erven
1563	MELODING	2347	0	28°8'34.1S	26°53'55.43E	Erven
1564	MELODING	1581	0	28°8'17.65S	26°53'30.94E	Erven
1565	MELODING	1582	0	28°8'17.78S	26°53'31.35E	Erven
1566	MELODING	1944	0	28°8'25.46S	26°53'31.22E	Erven
1567	MELODING	1946	0	28°8'24.72S	26°53'31.45E	Erven
1568	MELODING	12678	0	28°9'13.45S	26°53'20.07E	Erven
1569	MELODING	12680	0	28°9'12.78S	26°53'20.63E	Erven
1570	MELODING	6265	0	28°8'44.16S	26°53'4.35E	Erven
1571	MELODING	6267	0	28°8'44.73S	26°53'3.74E	Erven
1572	MELODING	5818	0	28°8'36.22S	26°53'15.55E	Erven
1573	MELODING	5820	0	28°8'36.77S	26°53'14.94E	Erven
1574	MELODING	4498	0	28°8'59.87S	26°53'22.48E	Erven
1575	MELODING	4500	0	28°8'59.28S	26°53'23.11E	Erven
1576	MELODING	5996	0	28°8'45.86S	26°53'5.06E	Erven
1577	MELODING	5998	0	28°8'46.42S	26°53'4.45E	Erven
1578	MELODING	4684	0	28°9'1.74S	26°53'28.36E	Erven
1579	MELODING	4686	0	28°9'2.79S	26°53'30.34E	Erven
1580	MELODING	3644	0	28°8'52.56S	26°53'41.3E	Erven
1581	MELODING	4229	0	28°8'51.5S	26°53'29.18E	Erven
1582	MELODING	4247	0	28°8'51.93S	26°53'28.1E	Erven
1583	MELODING	6252	0	28°8'40.52S	26°53'8.32E	Erven
1584	MELODING	6262	0	28°8'43.33S	26°53'5.27E	Erven
1585	MELODING	6264	0	28°8'43.88S	26°53'4.65E	Erven
1586	MELODING	5823	0	28°8'37.6S	26°53'14.04E	Erven
1587	MELODING	5825	0	28°8'38.16S	26°53'13.44E	Erven
1588	MELODING	5835	0	28°8'37.42S	26°53'13.22E	Erven

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1589	MELODING	4494	0	28°8'59.45S	26°53'23.94E	Erven
1590	MELODING	4497	0	28°9'0.31S	26°53'22.98E	Erven
1591	MELODING	6003	0	28°8'47.92S	26°53'2.77E	Erven
1592	MELODING	6005	0	28°8'47.28S	26°53'2.76E	Erven
1593	MELODING	4681	0	28°9'2.59S	26°53'27.44E	Erven
1594	MELODING	4683	0	28°9'2.02S	26°53'28.06E	Erven
1595	MELODING	4232	0	28°8'50.69S	26°53'28.23E	Erven
1596	MELODING	4234	0	28°8'50.15S	26°53'27.6E	Erven
1597	MELODING	4241	0	28°8'50.3S	26°53'26.2E	Erven
1598	MELODING	4243	0	28°8'50.85S	26°53'26.83E	Erven
1599	MELODING	3221	0	28°8'39.14S	26°53'38.43E	Erven
1600	MELODING	3646	0	28°8'51.92S	26°53'41.81E	Erven
1601	MELODING	3653	0	28°8'49.69S	26°53'43.59E	Erven
1602	MELODING	2349	0	28°8'34.3S	26°53'54.59E	Erven
1603	MELODING	2797	0	28°8'32.53S	26°53'19.03E	Erven
1604	MELODING	1952	0	28°8'24.8S	26°53'29.06E	Erven
1605	MELODING	1962	0	28°8'27.16S	26°53'30.76E	Erven
1606	MELODING	2350	0	28°8'34.37S	26°53'54.22E	Erven
1607	MELODING	12693	0	28°9'17.63S	26°53'17.96E	Erven
1608	MELODING	12792	0	28°9'10.4S	26°53'13.7E	Erven
1609	MELODING	12794	0	28°9'10.94S	26°53'14.34E	Erven
1610	MELODING	12971	0	28°9'18.81S	26°53'25.67E	Erven
1611	MELODING	12973	0	28°9'19.07S	26°53'24.5E	Erven
1612	MELODING	12975	0	28°9'18.44S	26°53'25.07E	Erven
1613	MELODING	12980	0	28°9'16.84S	26°53'26.35E	Erven
1614	MELODING	12982	0	28°9'16.21S	26°53'26.85E	Erven
1615	MELODING	12106	0	28°8'25.18S	26°53'48.81E	Erven
1616	MELODING	12520	0	28°8'19.17S	26°53'17.21E	Erven
1617	MELODING	6097	0	28°8'31.5S	26°53'3.12E	Erven
1618	MELODING	6099	0	28°8'32.25S	26°53'3.12E	Erven
1619	MELODING	5666	0	28°8'48.25S	26°53'9.23E	Erven
1620	MELODING	5672	0	28°8'49.87S	26°53'11.12E	Erven
1621	MELODING	6102	0	28°8'32.97S	26°53'2.62E	Erven
1622	MELODING	6104	0	28°8'32.29S	26°53'2.18E	Erven
1623	MELODING	4772	0	28°9'7.58S	26°53'33.76E	Erven
1624	MELODING	4774	0	28°9'6.95S	26°53'34.28E	Erven
1625	MELODING	3749	0	28°8'54.12S	26°53'44.54E	Erven
1626	MELODING	3751	0	28°8'53.48S	26°53'45.05E	Erven
1627	MELODING	3312	0	28°8'42.5S	26°53'42.48E	Erven
1628	MELODING	4249	0	28°8'52.47S	26°53'28.73E	Erven
1629	MELODING	3217	0	28°8'40.53S	26°53'38.21E	Erven
1630	MELODING	3219	0	28°8'39.78S	26°53'37.92E	Erven
1631	MELODING	2776	0	28°8'28.21S	26°53'26.39E	Erven
1632	MELODING	2778	0	28°8'28.26S	26°53'25.37E	Erven
1633	MELODING	2791	0	28°8'30.85S	26°53'20.87E	Erven
1634	MELODING	2793	0	28°8'31.41S	26°53'20.26E	Erven
1635	MELODING	2795	0	28°8'31.98S	26°53'19.64E	Erven
1636	MELODING	2351	0	28°8'34.81S	26°53'54.17E	Erven
1637	MELODING	2353	0	28°8'35.45S	26°53'53.65E	Erven
1638	MELODING	1594	0	28°8'19.42S	26°53'36.45E	Erven
1639	MELODING	1595	0	28°8'19.56S	26°53'36.87E	Erven
1640	MELODING	12696	0	28°9'0.99S	26°53'14.45E	Erven
1641	MELODING	12698	0	28°9'1.58S	26°53'13.83E	Erven
1642	MELODING	5841	0	28°8'35.77S	26°53'15.02E	Erven
1643	MELODING	5843	0	28°8'35.17S	26°53'15.52E	Erven
1644	MELODING	5406	0	28°8'52.57S	26°53'16.92E	Erven
1645	MELODING	5408	0	28°8'52.03S	26°53'16.28E	Erven
1646	MELODING	5423	0	28°8'53.76S	26°53'16.77E	Erven
1647	MELODING	5425	0	28°8'54.48S	26°53'15.98E	Erven
1648	MELODING	6444	0	28°8'57.42S	26°53'0.1E	Erven

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1649	MELODING	6446	0	28°8'57.84S	26°52'58.98E	Erven
1650	MELODING	5577	0	28°8'45.65S	26°53'8.14E	Erven
1651	MELODING	5582	0	28°8'47.08S	26°53'6.58E	Erven
1652	MELODING	4256	0	28°8'54.36S	26°53'30.95E	Erven
1653	MELODING	4689	0	28°9'3.23S	26°53'34.41E	Erven
1654	MELODING	4697	0	28°9'5.29S	26°53'34.28E	Erven
1655	MELODING	1999	0	28°8'22.85S	26°53'28.29E	Erven
1656	MELODING	12723	0	28°9'5.56S	26°53'9.48E	Erven
1657	MELODING	12730	0	28°9'6.25S	26°53'10.29E	Erven
1658	MELODING	6303	0	28°8'56.49S	26°53'7.99E	Erven
1659	MELODING	6314	0	28°8'56.96S	26°53'7.48E	Erven
1660	MELODING	6321	0	28°8'55.06S	26°53'5.26E	Erven
1661	MELODING	12917	0	28°9'11.81S	26°53'20.38E	Erven
1662	MELODING	12928	0	28°9'15.11S	26°53'17.39E	Erven
1663	MELODING	12039	0	28°8'23.12S	26°53'42.32E	Erven
1664	MELODING	12471	0	28°8'18.26S	26°53'15.5E	Erven
1665	MELODING	6472	0	28°9'1.87S	26°53'2.66E	Erven
1666	MELODING	6479	0	28°8'59.96S	26°53'0.43E	Erven
1667	MELODING	6486	0	28°8'59S	26°52'57.71E	Erven
1668	MELODING	5611	0	28°8'54.06S	26°53'7.04E	Erven
1669	MELODING	5618	0	28°8'52.14S	26°53'4.79E	Erven
1670	MELODING	6047	0	28°8'34.05S	26°53'6.18E	Erven
1671	MELODING	4704	0	28°9'4.21S	26°53'34.71E	Erven
1672	MELODING	4708	0	28°9'3.32S	26°53'33.27E	Erven
1673	MELODING	4719	0	28°9'5.68S	26°53'31.78E	Erven
1674	MELODING	3700	0	28°8'51.27S	26°53'44.58E	Erven
1675	MELODING	4289	0	28°8'52.08S	26°53'24.16E	Erven
1676	MELODING	4297	0	28°8'54.33S	26°53'21.72E	Erven
1677	MELODING	3265	0	28°8'39.89S	26°53'43.22E	Erven
1678	MELODING	3272	0	28°8'42.12S	26°53'41.44E	Erven
1679	MELODING	3703	0	28°8'50.32S	26°53'45.34E	Erven
1680	MELODING	2325	0	28°8'37.61S	26°53'51.02E	Erven
1681	MELODING	1945	0	28°8'25.06S	26°53'31.32E	Erven
1682	MELODING	1947	0	28°8'24.38S	26°53'31.6E	Erven
1683	MELODING	12677	0	28°9'13.77S	26°53'19.82E	Erven
1684	MELODING	12679	0	28°9'13.13S	26°53'20.32E	Erven
1685	MELODING	6266	0	28°8'44.45S	26°53'4.04E	Erven
1686	MELODING	6268	0	28°8'45.01S	26°53'3.44E	Erven
1687	MELODING	5819	0	28°8'36.5S	26°53'15.24E	Erven
1688	MELODING	5821	0	28°8'37.05S	26°53'14.65E	Erven
1689	MELODING	4499	0	28°8'59.56S	26°53'22.8E	Erven
1690	MELODING	4504	0	28°8'58.16S	26°53'24.33E	Erven
1691	MELODING	5405	0	28°8'53.08S	26°53'17.34E	Erven
1692	MELODING	5997	0	28°8'46.14S	26°53'4.75E	Erven
1693	MELODING	5999	0	28°8'46.7S	26°53'4.14E	Erven
1694	MELODING	4685	0	28°9'2.33S	26°53'32.92E	Erven
1695	MELODING	4686	0	28°9'2.55S	26°53'33.34E	Erven
1696	MELODING	3645	0	28°8'52.24S	26°53'41.56E	Erven
1697	MELODING	4230	0	28°8'51.23S	26°53'28.87E	Erven
1698	MELODING	4245	0	28°8'51.39S	26°53'27.47E	Erven
1699	MELODING	4248	0	28°8'52.2S	26°53'28.41E	Erven
1700	MELODING	3216	0	28°8'40.15S	26°53'38.52E	Erven
1701	MELODING	3218	0	28°8'40.13S	26°53'37.67E	Erven
1702	MELODING	2775	0	28°8'28.47S	26°53'26.72E	Erven
1703	MELODING	2777	0	28°8'28.26S	26°53'25.81E	Erven
1704	MELODING	2792	0	28°8'31.13S	26°53'20.56E	Erven
1705	MELODING	2794	0	28°8'31.7S	26°53'19.95E	Erven
1706	MELODING	2352	0	28°8'35.13S	26°53'53.91E	Erven
1707	MELODING	2354	0	28°8'35.77S	26°53'53.41E	Erven
1708	MELODING	12697	0	28°9'1.3S	26°53'14.14E	Erven

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1709	MELODING	12699	0	28°9'1.86S	26°53'13.53E	Erven
1710	MELODING	5842	0	28°8'35.49S	26°53'15.32E	Erven
1711	MELODING	5844	0	28°8'34.86S	26°53'14.99E	Erven
1712	MELODING	5407	0	28°8'52.29S	26°53'16.6E	Erven
1713	MELODING	5409	0	28°8'51.76S	26°53'15.96E	Erven
1714	MELODING	5424	0	28°8'54.18S	26°53'16.31E	Erven
1715	MELODING	5426	0	28°8'54.76S	26°53'15.68E	Erven
1716	MELODING	6445	0	28°8'57.11S	26°52'59.77E	Erven
1717	MELODING	6447	0	28°8'58.12S	26°52'59.33E	Erven
1718	MELODING	5581	0	28°8'46.79S	26°53'6.89E	Erven
1719	MELODING	5583	0	28°8'47.36S	26°53'6.28E	Erven
1720	MELODING	4689	0	28°9'3.47S	26°53'31.41E	Erven
1721	MELODING	4690	0	28°9'3.69S	26°53'31.77E	Erven
1722	MELODING	4696	0	28°9'4.81S	26°53'36.93E	Erven
1723	MELODING	4697	0	28°9'5.05S	26°53'37.28E	Erven
1724	MELODING	3666	0	28°8'48.46S	26°53'47.72E	Erven
1725	MELODING	3668	0	28°8'49.1S	26°53'47.21E	Erven
1726	MELODING	3223	0	28°8'38.51S	26°53'38.94E	Erven
1727	MELODING	3225	0	28°8'37.87S	26°53'39.45E	Erven
1728	MELODING	3240	0	28°8'40.34S	26°53'40.61E	Erven
1729	MELODING	12736	0	28°9'5.24S	26°53'12.59E	Erven
1730	MELODING	6308	0	28°8'57.87S	26°53'9.59E	Erven
1731	MELODING	6309	0	28°8'58.32S	26°53'9.1E	Erven
1732	MELODING	6326	0	28°8'53.68S	26°53'3.67E	Erven
1733	MELODING	12915	0	28°9'12.1S	26°53'21.33E	Erven
1734	MELODING	12916	0	28°9'11.78S	26°53'20.89E	Erven
1735	MELODING	12929	0	28°9'15.43S	26°53'17.14E	Erven
1736	MELODING	12930	0	28°9'15.76S	26°53'16.86E	Erven
1737	MELODING	12933	0	28°9'11.34S	26°53'23.29E	Erven
1738	MELODING	12476	0	28°8'19.66S	26°53'13.98E	Erven
1739	MELODING	12477	0	28°8'19.94S	26°53'13.67E	Erven
1740	MELODING	6484	0	28°8'58.59S	26°52'58.83E	Erven
1741	MELODING	6485	0	28°8'58.29S	26°52'58.5E	Erven
1742	MELODING	5613	0	28°8'53.52S	26°53'6.41E	Erven
1743	MELODING	5616	0	28°8'52.71S	26°53'5.46E	Erven
1744	MELODING	6052	0	28°8'32.09S	26°53'6.19E	Erven
1745	MELODING	6053	0	28°8'31.71S	26°53'6.19E	Erven
1746	MELODING	4717	0	28°9'5.22S	26°53'31.06E	Erven
1747	MELODING	4718	0	28°9'5.45S	26°53'31.42E	Erven
1748	MELODING	3702	0	28°8'50.64S	26°53'45.08E	Erven
1749	MELODING	4287	0	28°8'51.5S	26°53'24.94E	Erven
1750	MELODING	3259	0	28°8'37.89S	26°53'44.82E	Erven
1751	MELODING	3260	0	28°8'38.3S	26°53'44.49E	Erven
1752	MELODING	3277	0	28°8'41.73S	26°53'40.84E	Erven
1753	MELODING	3278	0	28°8'41.42S	26°53'41.1E	Erven
1754	MELODING	2836	0	28°8'30.07S	26°53'26.95E	Erven
1755	MELODING	2839	0	28°8'30.93S	26°53'25.87E	Erven
1756	MELODING	3802	0	28°8'43.75S	26°53'41.97E	Erven
1757	MELODING	2932	0	28°8'37.39S	26°53'29.2E	Erven
1758	MELODING	2939	0	28°8'35.07S	26°53'30.82E	Erven
1759	MELODING	3370	0	28°8'42.25S	26°53'38.69E	Erven
1760	MELODING	2498	0	28°8'33.36S	26°53'44.76E	Erven
1761	MELODING	2505	0	28°8'33.7S	26°53'42.63E	Erven
1762	MELODING	2512	0	28°8'34.64S	26°53'45.52E	Erven
1763	MELODING	1683	0	28°8'20.61S	26°53'36.69E	Erven
1764	MELODING	2102	0	28°8'22.65S	26°53'21.26E	Erven
1765	MELODING	2109	0	28°8'24.54S	26°53'23.47E	Erven
1766	MELODING	2674	0	28°8'28.35S	26°53'17.06E	Erven
1767	MELODING	2681	0	28°8'26.39S	26°53'19.2E	Erven
1768	MELODING	2688	0	28°8'28.67S	26°53'20.39E	Erven

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1769	MELODING	2251	0	28°8'29.6S	26°54'5.13E	Erven
1770	MELODING	2255	0	28°8'30.91S	26°54'4.04E	Erven
1771	MELODING	1854	0	28°8'26.46S	26°53'23.94E	Erven
1772	MELODING	1861	0	28°8'25.92S	26°53'21.39E	Erven
1773	MELODING	13048	0	28°9'13.13S	26°53'23.48E	Erven
1774	MELODING	12585	0	28°8'21.77S	26°53'15.98E	Erven
1775	MELODING	12592	0	28°8'19.81S	26°53'18.11E	Erven
1776	MELODING	12171	0	28°8'27.32S	26°53'43.63E	Erven
1777	MELODING	12178	0	28°8'25.83S	26°53'47.29E	Erven
1778	MELODING	6170	0	28°8'41.47S	26°53'1.18E	Erven
1779	MELODING	6181	0	28°8'38.38S	26°53'4.55E	Erven
1780	MELODING	5733	0	28°8'51.83S	26°53'8.14E	Erven
1781	MELODING	5737	0	28°8'52.99S	26°53'8.29E	Erven
1782	MELODING	5745	0	28°8'52.62S	26°53'13.8E	Erven
1783	MELODING	4404	0	28°9'2.57S	26°53'24.61E	Erven
1784	MELODING	4411	0	28°9'0.52S	26°53'26.85E	Erven
1785	MELODING	4415	0	28°8'59.39S	26°53'28.07E	Erven
1786	MELODING	3384	0	28°8'49.87S	26°53'38.7E	Erven
1787	MELODING	3391	0	28°8'43.26S	26°53'38.81E	Erven
1788	MELODING	3830	0	28°8'31.56S	26°54'0.04E	Erven
1789	MELODING	2950	0	28°8'37.38S	26°53'32.22E	Erven
1790	MELODING	2957	0	28°8'39.65S	26°53'30.51E	Erven
1791	MELODING	3393	0	28°8'42.72S	26°53'38.18E	Erven
1792	MELODING	2518	0	28°8'35.72S	26°53'47.51E	Erven
1793	MELODING	2525	0	28°8'36.08S	26°53'49.77E	Erven
1794	MELODING	3127	0	28°8'43.35S	26°53'30.99E	Erven
1795	MELODING	3135	0	28°8'45.46S	26°53'31.88E	Erven
1796	MELODING	3566	0	28°8'46.62S	26°53'44.71E	Erven
1797	MELODING	2694	0	28°8'30.38S	26°53'18.53E	Erven
1798	MELODING	2701	0	28°8'32.28S	26°53'15.66E	Erven
1799	MELODING	2709	0	28°8'30.14S	26°53'12.9E	Erven
1800	MELODING	1875	0	28°8'25.17S	26°53'21.56E	Erven
1801	MELODING	2267	0	28°8'32.53S	26°54'1.94E	Erven
1802	MELODING	13054	0	28°9'15.04S	26°53'21.94E	Erven
1803	MELODING	13065	0	28°9'16.56S	26°53'19.82E	Erven
1804	MELODING	13073	0	28°9'14.02S	26°53'21.86E	Erven
1805	MELODING	12183	0	28°8'27.53S	26°53'46.98E	Erven
1806	MELODING	12605	0	28°8'59.55S	26°53'14.63E	Erven
1807	MELODING	12612	0	28°9'1.35S	26°53'11.4E	Erven
1808	MELODING	12695	0	28°9'18.09S	26°53'18.68E	Erven
1809	MELODING	6273	0	28°8'44.28S	26°53'3.21E	Erven
1810	MELODING	6275	0	28°8'43.72S	26°53'3.82E	Erven
1811	MELODING	6282	0	28°8'41.75S	26°53'5.96E	Erven
1812	MELODING	6284	0	28°8'41.19S	26°53'6.57E	Erven
1813	MELODING	5846	0	28°8'34.32S	26°53'14.36E	Erven
1814	MELODING	5848	0	28°8'33.78S	26°53'13.73E	Erven
1815	MELODING	6007	0	28°8'46.6S	26°53'3.23E	Erven
1816	MELODING	6441	0	28°8'58.24S	26°53'1.06E	Erven
1817	MELODING	6443	0	28°8'57.7S	26°53'0.42E	Erven
1818	MELODING	5585	0	28°8'47.93S	26°53'5.61E	Erven
1819	MELODING	5588	0	28°8'49.36S	26°53'5.49E	Erven
1820	MELODING	6014	0	28°8'44.57S	26°53'5.44E	Erven
1821	MELODING	6016	0	28°8'44.01S	26°53'6.06E	Erven
1822	MELODING	6018	0	28°8'43.44S	26°53'6.67E	Erven
1823	MELODING	4698	0	28°9'5.56S	26°53'36.88E	Erven
1824	MELODING	3655	0	28°8'49.06S	26°53'44.1E	Erven
1825	MELODING	3657	0	28°8'48.42S	26°53'44.61E	Erven
1826	MELODING	3662	0	28°8'46.84S	26°53'45.88E	Erven
1827	MELODING	3664	0	28°8'47.8S	26°53'48.24E	Erven
1828	MELODING	3227	0	28°8'37.24S	26°53'39.96E	Erven

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1829	MELODING	3229	0	28°8'37.04S	26°53'42.39E	Erven
1830	MELODING	3236	0	28°8'39.06S	26°53'41.63E	Erven
1831	MELODING	3238	0	28°8'39.7S	26°53'41.12E	Erven
1832	MELODING	2806	0	28°8'31.21S	26°53'23.02E	Erven
1833	MELODING	2808	0	28°8'31.77S	26°53'22.41E	Erven
1834	MELODING	1968	0	28°8'25.54S	26°53'28.87E	Erven
1835	MELODING	1970	0	28°8'24.99S	26°53'28.26E	Erven
1836	MELODING	4698	0	28°9'5.79S	26°53'33.86E	Erven
1837	MELODING	3667	0	28°8'48.79S	26°53'47.47E	Erven
1838	MELODING	3669	0	28°8'49.42S	26°53'46.96E	Erven
1839	MELODING	3224	0	28°8'38.19S	26°53'39.19E	Erven
1840	MELODING	3226	0	28°8'37.55S	26°53'39.7E	Erven
1841	MELODING	3239	0	28°8'40.02S	26°53'40.87E	Erven
1842	MELODING	3241	0	28°8'40.66S	26°53'40.36E	Erven
1843	MELODING	3243	0	28°8'41.29S	26°53'39.85E	Erven
1844	MELODING	2376	0	28°8'36.82S	26°53'58.18E	Erven
1845	MELODING	2803	0	28°8'30.37S	26°53'23.94E	Erven
1846	MELODING	1972	0	28°8'18.35S	26°53'26.71E	Erven
1847	MELODING	1978	0	28°8'19.86S	26°53'28.71E	Erven
1848	MELODING	12712	0	28°9'2.25S	26°53'12.08E	Erven
1849	MELODING	12714	0	28°9'1.69S	26°53'12.7E	Erven
1850	MELODING	5859	0	28°8'30.71S	26°53'10.13E	Erven
1851	MELODING	5861	0	28°8'30.12S	26°53'9.5E	Erven
1852	MELODING	6465	0	28°9'3.07S	26°53'5.1E	Erven
1853	MELODING	6467	0	28°9'3.23S	26°53'4.26E	Erven
1854	MELODING	6470	0	28°9'2.41S	26°53'3.3E	Erven
1855	MELODING	4699	0	28°9'5.58S	26°53'33.5E	Erven
1856	MELODING	2834	0	28°8'29.5S	26°53'26.31E	Erven
1857	MELODING	2841	0	28°8'31.5S	26°53'25.26E	Erven
1858	MELODING	2848	0	28°8'33.46S	26°53'23.12E	Erven
1859	MELODING	2002	0	28°8'21.75S	26°53'28.74E	Erven
1860	MELODING	2011	0	28°8'19.34S	26°53'26.86E	Erven
1861	MELODING	2413	0	28°8'39.7S	26°53'54.75E	Erven
1862	MELODING	1620	0	28°8'26.53S	26°53'38.8E	Erven
1863	MELODING	12738	0	28°9'6.07S	26°53'12.51E	Erven
1864	MELODING	12744	0	28°9'8.06S	26°53'13.6E	Erven
1865	MELODING	6327	0	28°8'54.33S	26°53'2.8E	Erven
1866	MELODING	12486	0	28°8'20.02S	26°53'12.5E	Erven
1867	MELODING	12943	0	28°9'13.59S	26°53'26.87E	Erven
1868	MELODING	6063	0	28°8'32.59S	26°53'4.97E	Erven
1869	MELODING	6501	0	28°9'3.12S	26°53'2.54E	Erven
1870	MELODING	6508	0	28°9'4.13S	26°53'2.66E	Erven
1871	MELODING	5629	0	28°8'47.58S	26°53'4.98E	Erven
1872	MELODING	5643	0	28°8'47.35S	26°53'10.81E	Erven
1873	MELODING	4304	0	28°8'56.29S	26°53'19.58E	Erven
1874	MELODING	4726	0	28°9'6.66S	26°53'32.07E	Erven
1875	MELODING	3713	0	28°8'48.74S	26°53'49.73E	Erven
1876	MELODING	3720	0	28°8'50.99S	26°53'47.94E	Erven
1877	MELODING	3727	0	28°8'53.22S	26°53'46.16E	Erven
1878	MELODING	2855	0	28°8'34.72S	26°53'20.75E	Erven
1879	MELODING	3242	0	28°8'40.97S	26°53'40.11E	Erven
1880	MELODING	2377	0	28°8'37.2S	26°53'58.28E	Erven
1881	MELODING	2804	0	28°8'30.65S	26°53'23.63E	Erven
1882	MELODING	1977	0	28°8'19.73S	26°53'28.29E	Erven
1883	MELODING	1979	0	28°8'19.99S	26°53'29.12E	Erven
1884	MELODING	12711	0	28°9'2.64S	26°53'11.71E	Erven
1885	MELODING	12713	0	28°9'1.97S	26°53'12.39E	Erven
1886	MELODING	5860	0	28°8'30.44S	26°53'9.82E	Erven
1887	MELODING	5862	0	28°8'29.96S	26°53'9.03E	Erven
1888	MELODING	6466	0	28°9'3.51S	26°53'4.61E	Erven

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1889	MELODING	6468	0	28°9'2.96S	26°53'3.93E	Erven
1890	MELODING	6023	0	28°8'42.04S	26°53'8.19E	Erven
1891	MELODING	6469	0	28°9'2.68S	26°53'3.62E	Erven
1892	MELODING	6471	0	28°9'2.14S	26°53'2.98E	Erven
1893	MELODING	4699	0	28°9'5.34S	26°53'36.5E	Erven
1894	MELODING	5603	0	28°8'53.65S	26°53'9.1E	Erven
1895	MELODING	5605	0	28°8'53.09S	26°53'9.75E	Erven
1896	MELODING	4273	0	28°8'53.21S	26°53'28.54E	Erven
1897	MELODING	4275	0	28°8'52.67S	26°53'27.9E	Erven
1898	MELODING	3247	0	28°8'40.6S	26°53'39.51E	Erven
1899	MELODING	2003	0	28°8'21.39S	26°53'28.89E	Erven
1900	MELODING	2006	0	28°8'20.49S	26°53'28.63E	Erven
1901	MELODING	1614	0	28°8'24.34S	26°53'39.71E	Erven
1902	MELODING	1621	0	28°8'26.9S	26°53'38.65E	Erven
1903	MELODING	12936	0	28°9'12.01S	26°53'24.37E	Erven
1904	MELODING	12937	0	28°9'12.24S	26°53'24.73E	Erven
1905	MELODING	12491	0	28°8'18.61S	26°53'14.02E	Erven
1906	MELODING	12938	0	28°9'12.46S	26°53'25.09E	Erven
1907	MELODING	6058	0	28°8'30.64S	26°53'4.97E	Erven
1908	MELODING	6061	0	28°8'31.8S	26°53'4.97E	Erven
1909	MELODING	6062	0	28°8'32.2S	26°53'4.97E	Erven
1910	MELODING	6502	0	28°9'3.38S	26°53'2.86E	Erven
1911	MELODING	6503	0	28°9'3.66S	26°53'3.17E	Erven
1912	MELODING	5634	0	28°8'46.06S	26°53'6.67E	Erven
1913	MELODING	5638	0	28°8'45.98S	26°53'9.19E	Erven
1914	MELODING	4724	0	28°9'7.11S	26°53'32.81E	Erven
1915	MELODING	4725	0	28°9'6.89S	26°53'32.43E	Erven
1916	MELODING	3714	0	28°8'49.09S	26°53'49.47E	Erven
1917	MELODING	3715	0	28°8'49.4S	26°53'49.22E	Erven
1918	MELODING	3718	0	28°8'50.36S	26°53'48.45E	Erven
1919	MELODING	4313	0	28°8'54.72S	26°53'20.28E	Erven
1920	MELODING	4314	0	28°8'54.44S	26°53'20.59E	Erven
1921	MELODING	3288	0	28°8'38.24S	26°53'43.64E	Erven
1922	MELODING	3289	0	28°8'37.92S	26°53'43.9E	Erven
1923	MELODING	3314	0	28°8'41.86S	26°53'42.99E	Erven
1924	MELODING	3321	0	28°8'39.63S	26°53'44.78E	Erven
1925	MELODING	3323	0	28°8'38.99S	26°53'45.29E	Erven
1926	MELODING	2886	0	28°8'36.14S	26°53'22.56E	Erven
1927	MELODING	2888	0	28°8'35.51S	26°53'22.42E	Erven
1928	MELODING	2895	0	28°8'33.55S	26°53'24.55E	Erven
1929	MELODING	2067	0	28°8'22.45S	26°53'23.66E	Erven
1930	MELODING	1812	0	28°8'20.63S	26°53'31.04E	Erven
1931	MELODING	12994	0	28°9'17.23S	26°53'24.68E	Erven
1932	MELODING	12541	0	28°8'19.81S	26°53'15.42E	Erven
1933	MELODING	12543	0	28°8'19.25S	26°53'16.03E	Erven
1934	MELODING	6548	0	28°9'6.04S	26°53'3.14E	Erven
1935	MELODING	6551	0	28°9'5.24S	26°53'4.28E	Erven
1936	MELODING	6109	0	28°8'30.96S	26°53'2.74E	Erven
1937	MELODING	6116	0	28°8'37.68S	26°53'6.3E	Erven
1938	MELODING	6124	0	28°8'39.95S	26°53'3.85E	Erven
1939	MELODING	6126	0	28°8'40.51S	26°53'3.24E	Erven
1940	MELODING	5697	0	28°8'51.53S	26°53'10.42E	Erven
1941	MELODING	5699	0	28°8'51.86S	26°53'11.17E	Erven
1942	MELODING	4355	0	28°8'55.56S	26°53'21.9E	Erven
1943	MELODING	4360	0	28°8'54.16S	26°53'23.43E	Erven
1944	MELODING	4362	0	28°8'53.6S	26°53'24.04E	Erven
1945	MELODING	3768	0	28°8'51.78S	26°53'40.44E	Erven
1946	MELODING	3770	0	28°8'52.58S	26°53'39.7E	Erven
1947	MELODING	3777	0	28°8'55.38S	26°53'40.84E	Erven
1948	MELODING	3779	0	28°8'56.1S	26°53'41.17E	Erven

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1949	MELODING	3335	0	28°8'42.56S	26°53'45.58E	Erven
1950	MELODING	3337	0	28°8'43.2S	26°53'45.07E	Erven
1951	MELODING	2070	0	28°8'23.26S	26°53'24.61E	Erven
1952	MELODING	5604	0	28°8'53.38S	26°53'9.41E	Erven
1953	MELODING	5606	0	28°8'53.52S	26°53'10.26E	Erven
1954	MELODING	4274	0	28°8'52.94S	26°53'28.22E	Erven
1955	MELODING	4276	0	28°8'52.4S	26°53'27.59E	Erven
1956	MELODING	3248	0	28°8'40.28S	26°53'39.76E	Erven
1957	MELODING	3250	0	28°8'39.64S	26°53'40.28E	Erven
1958	MELODING	3687	0	28°8'54.97S	26°53'42.24E	Erven
1959	MELODING	3689	0	28°8'54.53S	26°53'41.54E	Erven
1960	MELODING	3691	0	28°8'54.16S	26°53'42.3E	Erven
1961	MELODING	2824	0	28°8'31.6S	26°53'21.58E	Erven
1962	MELODING	2826	0	28°8'31.04S	26°53'22.19E	Erven
1963	MELODING	2379	0	28°8'37.96S	26°53'58.47E	Erven
1964	MELODING	2385	0	28°8'39.39S	26°53'57.25E	Erven
1965	MELODING	1995	0	28°8'24.04S	26°53'26.96E	Erven
1966	MELODING	1997	0	28°8'23.42S	26°53'27.61E	Erven
1967	MELODING	12724	0	28°9'5.13S	26°53'8.97E	Erven
1968	MELODING	12726	0	28°9'4.54S	26°53'9.59E	Erven
1969	MELODING	6316	0	28°8'56.42S	26°53'6.85E	Erven
1970	MELODING	6318	0	28°8'55.87S	26°53'6.21E	Erven
1971	MELODING	12921	0	28°9'12.89S	26°53'19.17E	Erven
1972	MELODING	12923	0	28°9'13.52S	26°53'18.66E	Erven
1973	MELODING	12042	0	28°8'21.88S	26°53'42.78E	Erven
1974	MELODING	12469	0	28°8'17.69S	26°53'16.12E	Erven
1975	MELODING	2462	0	28°8'34.95S	26°53'56.2E	Erven
1976	MELODING	1650	0	28°8'30.23S	26°53'32.77E	Erven
1977	MELODING	1652	0	28°8'30.77S	26°53'33.4E	Erven
1978	MELODING	1657	0	28°8'31.78S	26°53'35.22E	Erven
1979	MELODING	1659	0	28°8'32.07S	26°53'36.04E	Erven
1980	MELODING	13022	0	28°9'15.97S	26°53'23.44E	Erven
1981	MELODING	12131	0	28°8'27.26S	26°53'55.29E	Erven
1982	MELODING	12133	0	28°8'26.98S	26°53'54.42E	Erven
1983	MELODING	12136	0	28°8'26.59S	26°53'53.18E	Erven
1984	MELODING	12138	0	28°8'26.32S	26°53'52.35E	Erven
1985	MELODING	4792	0	28°9'9.25S	26°53'31.1E	Erven
1986	MELODING	4794	0	28°9'9.54S	26°53'30.31E	Erven
1987	MELODING	4805	0	28°9'7.42S	26°53'26.1E	Erven
1988	MELODING	5705	0	28°8'50.03S	26°53'13.56E	Erven
1989	MELODING	4391	0	28°9'0.97S	26°53'27.38E	Erven
1990	MELODING	4393	0	28°9'1.53S	26°53'26.76E	Erven
1991	MELODING	3350	0	28°8'42.81S	26°53'44.47E	Erven
1992	MELODING	3352	0	28°8'42.17S	26°53'44.98E	Erven
1993	MELODING	2913	0	28°8'39.57S	26°53'28.06E	Erven
1994	MELODING	2915	0	28°8'40.22S	26°53'28.39E	Erven
1995	MELODING	2920	0	28°8'40.98S	26°53'28.22E	Erven
1996	MELODING	2923	0	28°8'40.13S	26°53'27.24E	Erven
1997	MELODING	2100	0	28°8'22.1S	26°53'20.63E	Erven
1998	MELODING	2491	0	28°8'34.29S	26°53'47.65E	Erven
1999	MELODING	1830	0	28°8'26.05S	26°53'33.74E	Erven
2000	MELODING	1600	0	28°8'20.23S	26°53'38.93E	Erven
2001	MELODING	1601	0	28°8'20.37S	26°53'39.34E	Erven
2002	MELODING	12700	0	28°9'2.14S	26°53'13.22E	Erven
2003	MELODING	12707	0	28°9'4.35S	26°53'11.75E	Erven
2004	MELODING	12709	0	28°9'3.55S	26°53'11.72E	Erven
2005	MELODING	5849	0	28°8'33.41S	26°53'13.31E	Erven
2006	MELODING	5854	0	28°8'32.07S	26°53'11.72E	Erven
2007	MELODING	5856	0	28°8'31.52S	26°53'11.09E	Erven
2008	MELODING	5858	0	28°8'30.98S	26°53'10.45E	Erven

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2009	MELODING	4700	0	28°9'5.12S	26°53'36.14E	Erven
2010	MELODING	4701	0	28°9'4.89S	26°53'35.78E	Erven
2011	MELODING	5596	0	28°8'52.51S	26°53'6.28E	Erven
2012	MELODING	5598	0	28°8'53.05S	26°53'6.92E	Erven
2013	MELODING	4277	0	28°8'52.13S	26°53'27.27E	Erven
2014	MELODING	4279	0	28°8'51.58S	26°53'26.64E	Erven
2015	MELODING	4704	0	28°9'4.45S	26°53'31.7E	Erven
2016	MELODING	3245	0	28°8'41.27S	26°53'39E	Erven
2017	MELODING	3692	0	28°8'53.82S	26°53'42.54E	Erven
2018	MELODING	2813	0	28°8'33.17S	26°53'20.89E	Erven
2019	MELODING	2419	0	28°8'39.64S	26°53'53.9E	Erven
2020	MELODING	2420	0	28°8'39.32S	26°53'54.16E	Erven
2021	MELODING	2426	0	28°8'37.41S	26°53'55.68E	Erven
2022	MELODING	21624	0	28°8'27.25S	26°54'7.47E	Erven
2023	MELODING	1625	0	28°8'28.36S	26°53'38.05E	Erven
2024	MELODING	2033	0	28°8'20.15S	26°53'25.2E	Erven
2025	MELODING	2034	0	28°8'19.88S	26°53'24.88E	Erven
2026	MELODING	12753	0	28°9'10.59S	26°53'16.55E	Erven
2027	MELODING	12754	0	28°9'10.88S	26°53'16.88E	Erven
2028	MELODING	12769	0	28°9'8.8S	26°53'13.41E	Erven
2029	MELODING	12955	0	28°9'17.55S	26°53'28.03E	Erven
2030	MELODING	12958	0	28°9'18.52S	26°53'27.25E	Erven
2031	MELODING	12077	0	28°8'26.61S	26°53'57.54E	Erven
2032	MELODING	6514	0	28°9'2.48S	26°53'0.75E	Erven
2033	MELODING	6515	0	28°9'2.22S	26°53'0.43E	Erven
2034	MELODING	12084	0	28°8'26.76S	26°53'56.7E	Erven
2035	MELODING	6072	0	28°8'31.02S	26°53'4.24E	Erven
2036	MELODING	6086	0	28°8'30.53S	26°53'0.75E	Erven
2037	MELODING	6087	0	28°8'30.25S	26°53'1.05E	Erven
2038	MELODING	4749	0	28°9'9.23S	26°53'33.34E	Erven
2039	MELODING	4750	0	28°9'9.55S	26°53'33.09E	Erven
2040	MELODING	4323	0	28°8'51.91S	26°53'23.33E	Erven
2041	MELODING	4326	0	28°8'52.05S	26°53'25.58E	Erven
2042	MELODING	4340	0	28°8'56.02S	26°53'22.43E	Erven
2043	MELODING	3297	0	28°8'40.66S	26°53'44.86E	Erven
2044	MELODING	3739	0	28°8'57.19S	26°53'43.07E	Erven
2045	MELODING	3740	0	28°8'56.91S	26°53'42.66E	Erven
2046	MELODING	2872	0	28°8'29.88S	26°53'25.93E	Erven
2047	MELODING	2876	0	28°8'38.84S	26°53'25.71E	Erven
2048	MELODING	2877	0	28°8'38.57S	26°53'25.4E	Erven
2049	MELODING	2042	0	28°8'21S	26°53'24.61E	Erven
2050	MELODING	2043	0	28°8'21.26S	26°53'24.92E	Erven
2051	MELODING	1632	0	28°8'30.93S	26°53'37E	Erven
2052	MELODING	12782	0	28°9'7.61S	26°53'10.43E	Erven
2053	MELODING	12783	0	28°9'7.87S	26°53'10.75E	Erven
2054	MELODING	12786	0	28°9'8.68S	26°53'11.69E	Erven
2055	MELODING	12801	0	28°9'12.73S	26°53'16.64E	Erven
2056	MELODING	12802	0	28°9'12.98S	26°53'17E	Erven
2057	MELODING	12383	0	28°8'15.88S	26°53'21.68E	Erven
2058	MELODING	6392	0	28°8'59.53S	26°53'5.2E	Erven
2059	MELODING	6393	0	28°8'59.26S	26°53'4.88E	Erven
2060	MELODING	5527	0	28°8'44.49S	26°53'21.62E	Erven
2061	MELODING	5530	0	28°8'43.65S	26°53'22.54E	Erven
2062	MELODING	14790	0	28°8'58.82S	26°52'48.54E	Erven
2063	MELODING	14369	0	28°9'2.07S	26°52'32.9E	Erven
2064	MELODING	14372	0	28°9'0.55S	26°52'32.6E	Erven
2065	MELODING	12824	0	28°9'7.8S	26°53'9.61E	Erven
2066	MELODING	12825	0	28°9'7.53S	26°53'9.29E	Erven
2067	MELODING	12387	0	28°8'14.63S	26°53'21.66E	Erven
2068	MELODING	12388	0	28°8'14.41S	26°53'21.3E	Erven

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2069	MELODING	12405	0	28°8'16.2S	26°53'15.05E	Erven
2070	MELODING	12406	0	28°8'16.48S	26°53'14.75E	Erven
2071	MELODING	6474	0	28°9'1.32S	26°53'2.03E	Erven
2072	MELODING	6476	0	28°9'0.77S	26°53'1.39E	Erven
2073	MELODING	6492	0	28°9'0.66S	26°52'59.66E	Erven
2074	MELODING	6494	0	28°9'1.2S	26°53'0.3E	Erven
2075	MELODING	6044	0	28°8'35.35S	26°53'6.18E	Erven
2076	MELODING	6046	0	28°8'34.43S	26°53'6.18E	Erven
2077	MELODING	4706	0	28°9'4S	26°53'30.99E	Erven
2078	MELODING	4707	0	28°9'3.78S	26°53'30.63E	Erven
2079	MELODING	3693	0	28°8'53.5S	26°53'42.79E	Erven
2080	MELODING	3695	0	28°8'52.86S	26°53'43.3E	Erven
2081	MELODING	4292	0	28°8'52.93S	26°53'23.25E	Erven
2082	MELODING	4295	0	28°8'53.76S	26°53'22.33E	Erven
2083	MELODING	3267	0	28°8'40.53S	26°53'42.72E	Erven
2084	MELODING	3269	0	28°8'41.16S	26°53'42.21E	Erven
2085	MELODING	2403	0	28°8'36.45S	26°53'57.06E	Erven
2086	MELODING	2405	0	28°8'37.14S	26°53'56.77E	Erven
2087	MELODING	2845	0	28°8'32.62S	26°53'24.04E	Erven
2088	MELODING	2847	0	28°8'33.18S	26°53'23.43E	Erven
2089	MELODING	2406	0	28°8'37.48S	26°53'56.53E	Erven
2090	MELODING	2409	0	28°8'38.43S	26°53'55.77E	Erven
2091	MELODING	12747	0	28°9'8.97S	26°53'14.65E	Erven
2092	MELODING	12749	0	28°9'9.5S	26°53'15.29E	Erven
2093	MELODING	12482	0	28°8'21.36S	26°53'12.11E	Erven
2094	MELODING	12484	0	28°8'20.58S	26°53'11.89E	Erven
2095	MELODING	12945	0	28°9'14.04S	26°53'27.6E	Erven
2096	MELODING	12947	0	28°9'14.49S	26°53'28.31E	Erven
2097	MELODING	6068	0	28°8'32.58S	26°53'4.24E	Erven
2098	MELODING	6070	0	28°8'31.8S	26°53'4.24E	Erven
2099	MELODING	5624	0	28°8'49.77S	26°53'4.77E	Erven
2100	MELODING	5626	0	28°8'48.98S	26°53'4.76E	Erven
2101	MELODING	5644	0	28°8'47.63S	26°53'11.13E	Erven
2102	MELODING	5646	0	28°8'48.16S	26°53'11.76E	Erven
2103	MELODING	4730	0	28°9'5.76S	26°53'30.64E	Erven
2104	MELODING	4736	0	28°9'4.37S	26°53'28.23E	Erven
2105	MELODING	3723	0	28°8'51.95S	26°53'47.18E	Erven
2106	MELODING	3725	0	28°8'52.58S	26°53'46.67E	Erven
2107	MELODING	2858	0	28°8'33.84S	26°53'21.68E	Erven
2108	MELODING	3280	0	28°8'40.79S	26°53'41.61E	Erven
2109	MELODING	3295	0	28°8'40.01S	26°53'45.37E	Erven
2110	MELODING	2414	0	28°8'40.02S	26°53'54.5E	Erven
2111	MELODING	2432	0	28°8'35.58S	26°53'56.37E	Erven
2112	MELODING	2859	0	28°8'33.56S	26°53'21.99E	Erven
2113	MELODING	2024	0	28°8'21.22S	26°53'27.51E	Erven
2114	MELODING	2026	0	28°8'22.1S	26°53'27.47E	Erven
2115	MELODING	12761	0	28°9'11.05S	26°53'16.05E	Erven
2116	MELODING	12763	0	28°9'10.51S	26°53'15.41E	Erven
2117	MELODING	12949	0	28°9'17.6S	26°53'30.01E	Erven
2118	MELODING	12964	0	28°9'16.58S	26°53'27.45E	Erven
2119	MELODING	12508	0	28°8'15.35S	26°53'20.82E	Erven
2120	MELODING	3283	0	28°8'39.83S	26°53'42.37E	Erven
2121	MELODING	3290	0	28°8'38.37S	26°53'45.81E	Erven
2122	MELODING	2418	0	28°8'39.96S	26°53'53.65E	Erven
2123	MELODING	2428	0	28°8'36.74S	26°53'56.18E	Erven
2124	MELODING	2860	0	28°8'33.28S	26°53'22.29E	Erven
2125	MELODING	2020	0	28°8'20.14S	26°53'26.24E	Erven
2126	MELODING	2028	0	28°8'21.5S	26°53'26.78E	Erven
2127	MELODING	12755	0	28°9'11.14S	26°53'17.25E	Erven
2128	MELODING	12767	0	28°9'9.43S	26°53'14.14E	Erven

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2129	MELODING	12953	0	28°9'16.9S	26°53'28.54E	Erven
2130	MELODING	12960	0	28°9'19.16S	26°53'26.73E	Erven
2131	MELODING	12505	0	28°8'14.67S	26°53'19.69E	Erven
2132	MELODING	12512	0	28°8'16.71S	26°53'19.66E	Erven
2133	MELODING	6520	0	28°9'0.85S	26°52'58.83E	Erven
2134	MELODING	12082	0	28°8'27.57S	26°53'56.26E	Erven
2135	MELODING	6074	0	28°8'30.25S	26°53'4.24E	Erven
2136	MELODING	6085	0	28°8'30.83S	26°53'0.28E	Erven
2137	MELODING	6092	0	28°8'29.33S	26°53'3.07E	Erven
2138	MELODING	4742	0	28°9'7S	26°53'35.12E	Erven
2139	MELODING	5659	0	28°8'47.01S	26°53'9.36E	Erven
2140	MELODING	4321	0	28°8'52.47S	26°53'22.72E	Erven
2141	MELODING	4328	0	28°8'52.62S	26°53'26.26E	Erven
2142	MELODING	4339	0	28°8'55.73S	26°53'22.73E	Erven
2143	MELODING	3302	0	28°8'42.25S	26°53'43.58E	Erven
2144	MELODING	3734	0	28°8'55.44S	26°53'44.38E	Erven
2145	MELODING	3745	0	28°8'55.45S	26°53'43.51E	Erven
2146	MELODING	3249	0	28°8'39.96S	26°53'40.02E	Erven
2147	MELODING	3688	0	28°8'55.11S	26°53'41.8E	Erven
2148	MELODING	3690	0	28°8'54.4S	26°53'41.97E	Erven
2149	MELODING	2825	0	28°8'31.32S	26°53'21.89E	Erven
2150	MELODING	2827	0	28°8'30.75S	26°53'22.5E	Erven
2151	MELODING	2382	0	28°8'37.99S	26°53'57.42E	Erven
2152	MELODING	2386	0	28°8'39.7S	26°53'56.99E	Erven
2153	MELODING	2399	0	28°8'39.32S	26°53'56.39E	Erven
2154	MELODING	1609	0	28°8'22.51S	26°53'40.46E	Erven
2155	MELODING	1994	0	28°8'24.49S	26°53'27.44E	Erven
2156	MELODING	1996	0	28°8'23.72S	26°53'27.28E	Erven
2157	MELODING	12725	0	28°9'4.82S	26°53'9.28E	Erven
2158	MELODING	12727	0	28°9'4.26S	26°53'9.89E	Erven
2159	MELODING	6302	0	28°8'56.22S	26°53'7.67E	Erven
2160	MELODING	6315	0	28°8'56.69S	26°53'7.16E	Erven
2161	MELODING	6317	0	28°8'56.15S	26°53'6.53E	Erven
2162	MELODING	12922	0	28°9'13.2S	26°53'18.92E	Erven
2163	MELODING	12924	0	28°9'13.84S	26°53'18.41E	Erven
2164	MELODING	12468	0	28°8'17.41S	26°53'16.42E	Erven
2165	MELODING	12470	0	28°8'17.98S	26°53'15.81E	Erven
2166	MELODING	6473	0	28°9'1.59S	26°53'2.34E	Erven
2167	MELODING	6475	0	28°9'1.05S	26°53'1.7E	Erven
2168	MELODING	6477	0	28°9'0.5S	26°53'1.06E	Erven
2169	MELODING	6491	0	28°9'0.38S	26°52'59.34E	Erven
2170	MELODING	6493	0	28°9'0.93S	26°52'59.98E	Erven
2171	MELODING	6043	0	28°8'35.73S	26°53'6.18E	Erven
2172	MELODING	6045	0	28°8'34.96S	26°53'6.18E	Erven
2173	MELODING	4705	0	28°9'3.99S	26°53'34.35E	Erven
2174	MELODING	4706	0	28°9'3.76S	26°53'33.99E	Erven
2175	MELODING	3694	0	28°8'53.18S	26°53'43.05E	Erven
2176	MELODING	3696	0	28°8'52.54S	26°53'43.55E	Erven
2177	MELODING	4293	0	28°8'53.21S	26°53'22.94E	Erven
2178	MELODING	4296	0	28°8'54.05S	26°53'22.03E	Erven
2179	MELODING	3268	0	28°8'40.84S	26°53'42.45E	Erven
2180	MELODING	3270	0	28°8'41.48S	26°53'41.95E	Erven
2181	MELODING	2402	0	28°8'38.36S	26°53'57.16E	Erven
2182	MELODING	2404	0	28°8'37.05S	26°53'57.22E	Erven
2183	MELODING	2831	0	28°8'29.64S	26°53'23.72E	Erven
2184	MELODING	2844	0	28°8'32.33S	26°53'24.35E	Erven
2185	MELODING	2846	0	28°8'32.9S	26°53'23.74E	Erven
2186	MELODING	2017	0	28°8'19.33S	26°53'25.3E	Erven
2187	MELODING	2408	0	28°8'38.12S	26°53'56.02E	Erven
2188	MELODING	1617	0	28°8'25.44S	26°53'39.26E	Erven

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2189	MELODING	1618	0	28°8'25.8S	26°53'39.1E	Erven
2190	MELODING	12746	0	28°9'8.69S	26°53'14.34E	Erven
2191	MELODING	12748	0	28°9'9.23S	26°53'14.97E	Erven
2192	MELODING	12483	0	28°8'20.89S	26°53'11.56E	Erven
2193	MELODING	12485	0	28°8'20.3S	26°53'12.19E	Erven
2194	MELODING	12944	0	28°9'13.81S	26°53'27.24E	Erven
2195	MELODING	12946	0	28°9'14.27S	26°53'27.95E	Erven
2196	MELODING	12510	0	28°8'16.07S	26°53'20.15E	Erven
2197	MELODING	6522	0	28°9'0.31S	26°52'58.19E	Erven
2198	MELODING	6524	0	28°8'59.77S	26°52'57.56E	Erven
2199	MELODING	6079	0	28°8'30.1S	26°53'2.17E	Erven
2200	MELODING	6081	0	28°8'30.7S	26°53'1.58E	Erven
2201	MELODING	6094	0	28°8'29.33S	26°53'3.95E	Erven
2202	MELODING	4738	0	28°9'5.67S	26°53'35.31E	Erven
2203	MELODING	5660	0	28°8'46.74S	26°53'9.04E	Erven
2204	MELODING	4316	0	28°8'53.87S	26°53'21.2E	Erven
2205	MELODING	4332	0	28°8'53.77S	26°53'24.87E	Erven
2206	MELODING	4334	0	28°8'54.33S	26°53'24.26E	Erven
2207	MELODING	3305	0	28°8'43.2S	26°53'42.82E	Erven
2208	MELODING	3732	0	28°8'54.81S	26°53'44.89E	Erven
2209	MELODING	2865	0	28°8'31.88S	26°53'23.82E	Erven
2210	MELODING	2867	0	28°8'31.32S	26°53'24.43E	Erven
2211	MELODING	2883	0	28°8'36.95S	26°53'23.5E	Erven
2212	MELODING	3309	0	28°8'43.46S	26°53'41.61E	Erven
2213	MELODING	2439	0	28°8'37.47S	26°53'54.29E	Erven
2214	MELODING	2441	0	28°8'38.1S	26°53'53.78E	Erven
2215	MELODING	2445	0	28°8'39.38S	26°53'52.76E	Erven
2216	MELODING	1636	0	28°8'32.8S	26°53'36.35E	Erven
2217	MELODING	1637	0	28°8'32.69S	26°53'35.89E	Erven
2218	MELODING	12775	0	28°9'5.7S	26°53'8.18E	Erven
2219	MELODING	12777	0	28°9'6.25S	26°53'8.84E	Erven
2220	MELODING	12376	0	28°8'15.62S	26°53'22.82E	Erven
2221	MELODING	12378	0	28°8'16.27S	26°53'22.33E	Erven
2222	MELODING	12807	0	28°9'12.49S	26°53'15.09E	Erven
2223	MELODING	12809	0	28°9'11.95S	26°53'14.45E	Erven
2224	MELODING	5955	0	28°8'31.71S	26°53'6.91E	Erven
2225	MELODING	5957	0	28°8'32.49S	26°53'6.91E	Erven
2226	MELODING	6399	0	28°8'57.62S	26°53'2.97E	Erven
2227	MELODING	5520	0	28°8'46.46S	26°53'19.49E	Erven
2228	MELODING	5536	0	28°8'45.51S	26°53'24.08E	Erven
2229	MELODING	5958	0	28°8'32.88S	26°53'6.91E	Erven
2230	MELODING	14797	0	28°9'1.4S	26°52'50.07E	Erven
2231	MELODING	14799	0	28°9'2.05S	26°52'49.36E	Erven
2232	MELODING	14361	0	28°9'2.57S	26°52'34.81E	Erven
2233	MELODING	14363	0	28°9'3.24S	26°52'35.58E	Erven
2234	MELODING	14379	0	28°8'57.35S	26°52'32.12E	Erven
2235	MELODING	14381	0	28°8'58.1S	26°52'26.88E	Erven
2236	MELODING	12813	0	28°9'10.87S	26°53'13.19E	Erven
2237	MELODING	12815	0	28°9'10.33S	26°53'12.56E	Erven
2238	MELODING	12396	0	28°8'13.67S	26°53'17.8E	Erven
2239	MELODING	12398	0	28°8'14.23S	26°53'17.19E	Erven
2240	MELODING	6405	0	28°8'55.95S	26°53'1.04E	Erven
2241	MELODING	6407	0	28°8'56.96S	26°53'0.61E	Erven
2242	MELODING	5982	0	28°8'41.93S	26°53'9.33E	Erven
2243	MELODING	5984	0	28°8'42.5S	26°53'8.72E	Erven
2244	MELODING	14816	0	28°9'0.83S	26°52'49.41E	Erven
2245	MELODING	14818	0	28°9'0.18S	26°52'50.13E	Erven
2246	MELODING	14399	0	28°8'59.22S	26°52'26.56E	Erven
2247	MELODING	14401	0	28°9'0.23S	26°52'26.82E	Erven
2248	MELODING	14403	0	28°9'1.13S	26°52'26.95E	Erven

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2249	MELODING	12411	0	28°8'17.98S	26°53'13.12E	Erven
2250	MELODING	12841	0	28°9'9.58S	26°53'10.11E	Erven
2251	MELODING	12843	0	28°9'10.13S	26°53'10.74E	Erven
2252	MELODING	6419	0	28°9'0.23S	26°53'4.44E	Erven
2253	MELODING	6421	0	28°9'0.77S	26°53'5.08E	Erven
2254	MELODING	6435	0	28°8'59.88S	26°53'2.97E	Erven
2255	MELODING	6437	0	28°8'59.33S	26°53'2.33E	Erven
2256	MELODING	6439	0	28°8'58.79S	26°53'1.7E	Erven
2257	MELODING	14407	0	28°9'2.98S	26°52'27.22E	Erven
2258	MELODING	14409	0	28°9'0.24S	26°52'29.03E	Erven
2259	MELODING	14411	0	28°9'1.2S	26°52'29.18E	Erven
2260	MELODING	14841	0	28°9'8.02S	26°52'48.13E	Erven
2261	MELODING	14843	0	28°9'7.39S	26°52'47.39E	Erven
2262	MELODING	12857	0	28°9'13.92S	26°53'15.37E	Erven
2263	MELODING	12859	0	28°9'14.49S	26°53'15.64E	Erven
2264	MELODING	14853	0	28°9'3.89S	26°52'49.29E	Erven
2265	MELODING	14855	0	28°9'3.23S	26°52'50E	Erven
2266	MELODING	14423	0	28°8'59.93S	26°52'31.21E	Erven
2267	MELODING	14438	0	28°9'4.62S	26°52'32.73E	Erven
2268	MELODING	14440	0	28°9'3.99S	26°52'31.99E	Erven
2269	MELODING	1714	0	28°8'19.26S	26°53'30.38E	Erven
2270	MELODING	2129	0	28°8'19.94S	26°53'20.94E	Erven
2271	MELODING	12872	0	28°9'11.5S	26°53'11.29E	Erven
2272	MELODING	12874	0	28°9'10.87S	26°53'10.55E	Erven
2273	MELODING	12459	0	28°8'27.87S	26°53'3.69E	Erven
2274	MELODING	12461	0	28°8'27.87S	26°53'2.81E	Erven
2275	MELODING	14867	0	28°9'4.26S	26°52'53.24E	Erven
2276	MELODING	14869	0	28°9'3.59S	26°52'52.47E	Erven
2277	MELODING	14884	0	28°9'5.35S	26°52'51.34E	Erven
2278	MELODING	14886	0	28°9'5.84S	26°52'50.04E	Erven
2279	MELODING	14449	0	28°9'0.03S	26°52'30.3E	Erven
2280	MELODING	14451	0	28°9'3.86S	26°52'28.52E	Erven
2281	MELODING	2548	0	28°8'34.16S	26°53'41.95E	Erven
2282	MELODING	2551	0	28°8'31.13S	26°53'40E	Erven
2283	MELODING	1733	0	28°8'25.19S	26°53'38.12E	Erven
2284	MELODING	1735	0	28°8'25.91S	26°53'37.81E	Erven
2285	MELODING	12889	0	28°9'4.28S	26°53'16.69E	Erven
2286	MELODING	12891	0	28°9'8.75S	26°53'17.3E	Erven
2287	MELODING	14464	0	28°9'5.71S	26°52'30.83E	Erven
2288	MELODING	14466	0	28°9'5.08S	26°52'30.1E	Erven
2289	MELODING	14898	0	28°9'9.96S	26°52'53.49E	Erven
2290	MELODING	14900	0	28°9'9.28S	26°52'52.77E	Erven
2291	MELODING	2556	0	28°8'32.02S	26°53'41.77E	Erven
2292	MELODING	2558	0	28°8'32.76S	26°53'41.47E	Erven
2293	MELODING	2167	0	28°8'31.65S	26°54'4.79E	Erven
2294	MELODING	14912	0	28°9'9.12S	26°52'50.74E	Erven
2295	MELODING	14914	0	28°9'9.76S	26°52'51.49E	Erven
2296	MELODING	3011	0	28°8'42.3S	26°53'29.25E	Erven
2297	MELODING	3013	0	28°8'42.72S	26°53'28.54E	Erven
2298	MELODING	2594	0	28°8'24.75S	26°53'16.71E	Erven
2299	MELODING	2596	0	28°8'25.31S	26°53'16.12E	Erven
2300	MELODING	1759	0	28°8'27.53S	26°53'36.36E	Erven
2301	MELODING	14473	0	28°9'5.26S	26°52'27.58E	Erven
2302	MELODING	14475	0	28°9'6.16S	26°52'27.71E	Erven
2303	MELODING	14488	0	28°9'12.01S	26°52'28.97E	Erven
2304	MELODING	14491	0	28°9'4.83S	26°52'36.85E	Erven
2305	MELODING	3462	0	28°8'47.08S	26°53'38.01E	Erven
2306	MELODING	3464	0	28°8'46.52S	26°53'37.35E	Erven
2307	MELODING	2598	0	28°8'25.87S	26°53'15.51E	Erven
2308	MELODING	2600	0	28°8'26.42S	26°53'14.91E	Erven

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2309	MELODING	3035	0	28°8'37.45S	26°53'21.46E	Erven
2310	MELODING	3037	0	28°8'36.91S	26°53'20.82E	Erven
2311	MELODING	3039	0	28°8'36.36S	26°53'20.19E	Erven
2312	MELODING	1773	0	28°8'22.8S	26°53'37.15E	Erven
2313	MELODING	1775	0	28°8'23.53S	26°53'36.84E	Erven
2314	MELODING	1793	0	28°8'30.01S	26°53'33.87E	Erven
2315	MELODING	14924	0	28°9'11.61S	26°52'52.32E	Erven
2316	MELODING	14926	0	28°9'10.97S	26°52'51.59E	Erven
2317	MELODING	4065	0	28°8'51.66S	26°53'34.65E	Erven
2318	MELODING	4067	0	28°8'51.12S	26°53'34.02E	Erven
2319	MELODING	3050	0	28°8'34.54S	26°53'19.11E	Erven
2320	MELODING	3478	0	28°8'43.56S	26°53'32.28E	Erven
2321	MELODING	3491	0	28°8'47.23S	26°53'36.59E	Erven
2322	MELODING	3493	0	28°8'47.78S	26°53'37.25E	Erven
2323	MELODING	3496	0	28°8'48.66S	26°53'38.4E	Erven
2324	MELODING	2623	0	28°8'23.19S	26°53'17.39E	Erven
2325	MELODING	2625	0	28°8'22.65S	26°53'18E	Erven
2326	MELODING	2218	0	28°8'30.56S	26°53'59.04E	Erven
2327	MELODING	2220	0	28°8'29.8S	26°53'58.85E	Erven
2328	MELODING	14499	0	28°9'7.45S	26°52'34.01E	Erven
2329	MELODING	14501	0	28°9'8.11S	26°52'33.3E	Erven
2330	MELODING	4086	0	28°8'47.34S	26°53'26.64E	Erven
2331	MELODING	4513	0	28°8'56.74S	26°53'28.43E	Erven
2332	MELODING	4530	0	28°9'1S	26°53'23.8E	Erven
2333	MELODING	4532	0	28°9'0.4S	26°53'24.42E	Erven
2334	MELODING	4534	0	28°8'59.85S	26°53'25.03E	Erven
2335	MELODING	4093	0	28°8'49.31S	26°53'24.51E	Erven
2336	MELODING	4095	0	28°8'49.87S	26°53'23.89E	Erven
2337	MELODING	3065	0	28°8'38.6S	26°53'23.86E	Erven
2338	MELODING	3067	0	28°8'39.15S	26°53'24.5E	Erven
2339	MELODING	2236	0	28°8'29.71S	26°54'2.75E	Erven
2340	MELODING	2631	0	28°8'26.22S	26°53'17.78E	Erven
2341	MELODING	2647	0	28°8'27.7S	26°53'15.08E	Erven
2342	MELODING	2649	0	28°8'27.14S	26°53'15.69E	Erven
2343	MELODING	14271	0	28°8'56.87S	26°52'38.13E	Erven
2344	MELODING	14273	0	28°8'56.22S	26°52'38.84E	Erven
2345	MELODING	14515	0	28°9'7.54S	26°52'32.63E	Erven
2346	MELODING	14517	0	28°9'6.89S	26°52'33.34E	Erven
2347	MELODING	14949	0	28°9'6.24S	26°52'57.25E	Erven
2348	MELODING	5434	0	28°8'57S	26°53'13.24E	Erven
2349	MELODING	5436	0	28°8'57.39S	26°53'11.5E	Erven
2350	MELODING	4109	0	28°8'53.89S	26°53'19.52E	Erven
2351	MELODING	4115	0	28°8'55.67S	26°53'17.59E	Erven
2352	MELODING	3520	0	28°8'47.8S	26°53'51.85E	Erven
2353	MELODING	3522	0	28°8'48.44S	26°53'51.34E	Erven
2354	MELODING	2653	0	28°8'26.01S	26°53'16.91E	Erven
2355	MELODING	2655	0	28°8'25.45S	26°53'17.52E	Erven
2356	MELODING	14712	0	28°8'58.98S	26°52'46.58E	Erven
2357	MELODING	14714	0	28°8'58.32S	26°52'47.3E	Erven
2358	MELODING	14287	0	28°8'55.19S	26°52'44.29E	Erven
2359	MELODING	14289	0	28°8'55.84S	26°52'43.58E	Erven
2360	MELODING	14291	0	28°8'56.5S	26°52'42.87E	Erven
2361	MELODING	14952	0	28°9'6.95S	26°52'56.37E	Erven
2362	MELODING	14954	0	28°9'7.83S	26°52'57.34E	Erven
2363	MELODING	14969	0	28°9'11.52S	26°53'6.72E	Erven
2364	MELODING	5453	0	28°8'43.82S	26°53'20.83E	Erven
2365	MELODING	5875	0	28°8'32.65S	26°53'10.82E	Erven
2366	MELODING	5890	0	28°8'34.74S	26°53'12.21E	Erven
2367	MELODING	5892	0	28°8'34.2S	26°53'11.58E	Erven
2368	MELODING	5454	0	28°8'44.1S	26°53'20.53E	Erven

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2369	MELODING	5456	0	28°8'44.66S	26°53'19.92E	Erven
2370	MELODING	4133	0	28°8'57.66S	26°53'17.38E	Erven
2371	MELODING	4135	0	28°8'47.42S	26°53'28.08E	Erven
2372	MELODING	3537	0	28°8'53.2S	26°53'47.52E	Erven
2373	MELODING	3539	0	28°8'54.27S	26°53'46.67E	Erven
2374	MELODING	15149	0	28°9'16.74S	26°53'6.83E	Erven
2375	MELODING	15151	0	28°9'16.85S	26°53'7.7E	Erven
2376	MELODING	14295	0	28°8'57.81S	26°52'41.45E	Erven
2377	MELODING	14297	0	28°8'58.47S	26°52'40.73E	Erven
2378	MELODING	14729	0	28°9'0.62S	26°52'53.84E	Erven
2379	MELODING	14731	0	28°9'2.09S	26°52'54.1E	Erven
2380	MELODING	14102	0	28°8'50.03S	26°52'37.38E	Erven
2381	MELODING	14535	0	28°9'7.28S	26°52'36.29E	Erven
2382	MELODING	14537	0	28°9'7.93S	26°52'35.58E	Erven
2383	MELODING	5900	0	28°8'32.05S	26°53'9.05E	Erven
2384	MELODING	6328	0	28°8'54.62S	26°53'3.16E	Erven
2385	MELODING	6343	0	28°8'58.71S	26°53'7.94E	Erven
2386	MELODING	6345	0	28°8'59.41S	26°53'8.69E	Erven
2387	MELODING	5481	0	28°8'51.28S	26°53'16.99E	Erven
2388	MELODING	5903	0	28°8'33.31S	26°53'8.88E	Erven
2389	MELODING	4575	0	28°9'12.51S	26°53'32.06E	Erven
2390	MELODING	4577	0	28°9'13.26S	26°53'31.56E	Erven
2391	MELODING	3551	0	28°8'58.08S	26°53'43.62E	Erven
2392	MELODING	3553	0	28°8'58.71S	26°53'43.11E	Erven
2393	MELODING	4150	0	28°8'51.48S	26°53'32.86E	Erven
2394	MELODING	5755	0	28°8'54.81S	26°53'10.42E	Erven
2395	MELODING	6193	0	28°8'40.8S	26°53'5.47E	Erven
2396	MELODING	6201	0	28°8'43.04S	26°53'3.03E	Erven
2397	MELODING	5322	0	28°8'42.57S	26°53'24.01E	Erven
2398	MELODING	3833	0	28°8'32.7S	26°54'0.33E	Erven
2399	MELODING	3840	0	28°8'35.15S	26°54'0.21E	Erven
2400	MELODING	4433	0	28°8'54.92S	26°53'26.3E	Erven
2401	MELODING	3399	0	28°8'41.1S	26°53'36.28E	Erven
2402	MELODING	3406	0	28°8'42.05S	26°53'35.81E	Erven
2403	MELODING	3413	0	28°8'43.98S	26°53'38.07E	Erven
2404	MELODING	2539	0	28°8'35.38S	26°53'45.68E	Erven
2405	MELODING	2969	0	28°8'36.71S	26°53'31.83E	Erven
2406	MELODING	2976	0	28°8'33.8S	26°53'35.42E	Erven
2407	MELODING	2980	0	28°8'33.26S	26°53'33.78E	Erven
2408	MELODING	3577	0	28°8'50.12S	26°53'41.91E	Erven
2409	MELODING	3584	0	28°8'48.46S	26°53'42.33E	Erven
2410	MELODING	4173	0	28°8'51.95S	26°53'32.35E	Erven
2411	MELODING	3140	0	28°8'46.81S	26°53'33.47E	Erven
2412	MELODING	3147	0	28°8'48.7S	26°53'35.68E	Erven
2413	MELODING	3155	0	28°8'50.92S	26°53'38.27E	Erven
2414	MELODING	2286	0	28°8'36.3S	26°53'58.8E	Erven
2415	MELODING	2717	0	28°8'28.86S	26°53'12.46E	Erven
2416	MELODING	1892	0	28°8'26.46S	26°53'28.36E	Erven
2417	MELODING	13077	0	28°9'12.75S	26°53'22.88E	Erven
2418	MELODING	12617	0	28°9'2.83S	26°53'9.79E	Erven
2419	MELODING	12624	0	28°9'4.89S	26°53'7.55E	Erven
2420	MELODING	12192	0	28°8'28.04S	26°53'45.99E	Erven
2421	MELODING	6208	0	28°8'45.69S	26°53'1.54E	Erven
2422	MELODING	2820	0	28°8'32.72S	26°53'20.36E	Erven
2423	MELODING	2823	0	28°8'31.87S	26°53'21.27E	Erven
2424	MELODING	2388	0	28°8'40.34S	26°53'56.48E	Erven
2425	MELODING	2390	0	28°8'40.97S	26°53'55.97E	Erven
2426	MELODING	2395	0	28°8'40.6S	26°53'55.38E	Erven
2427	MELODING	2397	0	28°8'39.96S	26°53'55.89E	Erven
2428	MELODING	1998	0	28°8'23.12S	26°53'27.93E	Erven

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2429	MELODING	2000	0	28°8'22.49S	26°53'28.43E	Erven
2430	MELODING	12729	0	28°9'3.62S	26°53'10.59E	Erven
2431	MELODING	12731	0	28°9'5.95S	26°53'10.6E	Erven
2432	MELODING	6304	0	28°8'56.76S	26°53'8.3E	Erven
2433	MELODING	6306	0	28°8'57.31S	26°53'8.94E	Erven
2434	MELODING	6311	0	28°8'57.77S	26°53'8.43E	Erven
2435	MELODING	6313	0	28°8'57.22S	26°53'7.79E	Erven
2436	MELODING	12910	0	28°9'11.34S	26°53'21.33E	Erven
2437	MELODING	12918	0	28°9'11.94S	26°53'19.82E	Erven
2438	MELODING	12920	0	28°9'12.56S	26°53'19.42E	Erven
2439	MELODING	12472	0	28°8'18.53S	26°53'15.2E	Erven
2440	MELODING	12474	0	28°8'19.1S	26°53'14.59E	Erven
2441	MELODING	12479	0	28°8'20.5S	26°53'13.07E	Erven
2442	MELODING	12481	0	28°8'21.06S	26°53'12.45E	Erven
2443	MELODING	6495	0	28°9'1.47S	26°53'0.62E	Erven
2444	MELODING	6497	0	28°9'2.02S	26°53'1.26E	Erven
2445	MELODING	5612	0	28°8'53.78S	26°53'6.73E	Erven
2446	MELODING	5617	0	28°8'52.44S	26°53'5.14E	Erven
2447	MELODING	5619	0	28°8'51.71S	26°53'4.81E	Erven
2448	MELODING	4707	0	28°9'3.54S	26°53'33.63E	Erven
2449	MELODING	4711	0	28°9'3.71S	26°53'28.83E	Erven
2450	MELODING	6215	0	28°8'48.42S	26°53'1.59E	Erven
2451	MELODING	5766	0	28°8'53.43S	26°53'15.44E	Erven
2452	MELODING	5773	0	28°8'55.49S	26°53'13.22E	Erven
2453	MELODING	5781	0	28°8'54.75S	26°53'13.01E	Erven
2454	MELODING	4451	0	28°9'0.44S	26°53'21.68E	Erven
2455	MELODING	2992	0	28°8'36.45S	26°53'34.25E	Erven
2456	MELODING	3424	0	28°8'45.82S	26°53'39.17E	Erven
2457	MELODING	3431	0	28°8'43.9S	26°53'36.91E	Erven
2458	MELODING	4179	0	28°8'50.32S	26°53'30.45E	Erven
2459	MELODING	4196	0	28°8'50.49S	26°53'29.05E	Erven
2460	MELODING	3162	0	28°8'50.26S	26°53'36.44E	Erven
2461	MELODING	3592	0	28°8'45.92S	26°53'44.37E	Erven
2462	MELODING	3603	0	28°8'46.68S	26°53'49.42E	Erven
2463	MELODING	2726	0	28°8'31.3S	26°53'15.3E	Erven
2464	MELODING	2733	0	28°8'29.93S	26°53'18E	Erven
2465	MELODING	2744	0	28°8'32.08S	26°53'18.5E	Erven
2466	MELODING	1905	0	28°8'25.91S	26°53'33.01E	Erven
2467	MELODING	2296	0	28°8'39.86S	26°53'58.21E	Erven
2468	MELODING	2300	0	28°8'41.13S	26°53'57.2E	Erven
2469	MELODING	1910	0	28°8'24.11S	26°53'33.81E	Erven
2470	MELODING	12632	0	28°9'7.17S	26°53'4.96E	Erven
2471	MELODING	12640	0	28°9'9.59S	26°53'7.33E	Erven
2472	MELODING	12647	0	28°9'11.49S	26°53'9.55E	Erven
2473	MELODING	6219	0	28°8'48.04S	26°53'0.85E	Erven
2474	MELODING	6226	0	28°8'45.31S	26°53'0.8E	Erven
2475	MELODING	4152	0	28°8'52.03S	26°53'33.49E	Erven
2476	MELODING	14745	0	28°9'5.35S	26°52'59.35E	Erven
2477	MELODING	14313	0	28°8'53.95S	26°52'44.39E	Erven
2478	MELODING	14315	0	28°9'0.18S	26°52'35.91E	Erven
2479	MELODING	14747	0	28°9'5.99S	26°53'0.12E	Erven
2480	MELODING	14749	0	28°9'6.62S	26°53'0.86E	Erven
2481	MELODING	14974	0	28°9'10.17S	26°53'5.14E	Erven
2482	MELODING	14976	0	28°9'9.63S	26°53'4.51E	Erven
2483	MELODING	6349	0	28°8'59.18S	26°53'7.44E	Erven
2484	MELODING	6351	0	28°8'58.63S	26°53'6.8E	Erven
2485	MELODING	5924	0	28°8'34.83S	26°53'9.67E	Erven
2486	MELODING	5926	0	28°8'34.29S	26°53'9.04E	Erven
2487	MELODING	5483	0	28°8'50.74S	26°53'16.36E	Erven
2488	MELODING	5485	0	28°8'50.2S	26°53'15.72E	Erven

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2489	MELODING	5500	0	28°8'46.35S	26°53'20.63E	Erven
2490	MELODING	5502	0	28°8'46.91S	26°53'20.02E	Erven
2491	MELODING	4169	0	28°8'53.04S	26°53'33.62E	Erven
2492	MELODING	4171	0	28°8'52.49S	26°53'32.98E	Erven
2493	MELODING	14762	0	28°9'11.03S	26°52'57.97E	Erven
2494	MELODING	14764	0	28°9'11.69S	26°52'57.23E	Erven
2495	MELODING	14339	0	28°9'3.17S	26°52'37.68E	Erven
2496	MELODING	14341	0	28°9'2.53S	26°52'36.94E	Erven
2497	MELODING	14343	0	28°9'1.91S	26°52'36.2E	Erven
2498	MELODING	14996	0	28°9'13.64S	26°52'57.91E	Erven
2499	MELODING	14998	0	28°9'14.21S	26°52'57.29E	Erven
2500	MELODING	5969	0	28°8'37.17S	26°53'8.2E	Erven
2501	MELODING	5970	0	28°8'37.44S	26°53'8.51E	Erven
2502	MELODING	5973	0	28°8'38.25S	26°53'9.46E	Erven
2503	MELODING	14807	0	28°9'3.82S	26°52'46.18E	Erven
2504	MELODING	14810	0	28°9'2.79S	26°52'47.28E	Erven
2505	MELODING	14824	0	28°9'2.48S	26°52'52.09E	Erven
2506	MELODING	14825	0	28°9'2.81S	26°52'51.73E	Erven
2507	MELODING	14393	0	28°8'58.6S	26°52'29.55E	Erven
2508	MELODING	14394	0	28°8'58.67S	26°52'29.03E	Erven
2509	MELODING	12832	0	28°9'7.15S	26°53'7.26E	Erven
2510	MELODING	12833	0	28°9'7.42S	26°53'7.57E	Erven
2511	MELODING	12415	0	28°8'19.1S	26°53'11.9E	Erven
2512	MELODING	12418	0	28°8'19.94S	26°53'10.98E	Erven
2513	MELODING	12419	0	28°8'20.22S	26°53'10.68E	Erven
2514	MELODING	6427	0	28°9'2.06S	26°53'5.53E	Erven
2515	MELODING	6428	0	28°9'1.79S	26°53'5.21E	Erven
2516	MELODING	14830	0	28°9'4.45S	26°52'49.95E	Erven
2517	MELODING	14835	0	28°9'6.14S	26°52'48.03E	Erven
2518	MELODING	14836	0	28°9'6.71S	26°52'47.8E	Erven
2519	MELODING	14417	0	28°9'1.79S	26°52'28.35E	Erven
2520	MELODING	14418	0	28°9'1.31S	26°52'28.27E	Erven
2521	MELODING	1695	0	28°8'21.64S	26°53'37.74E	Erven
2522	MELODING	1696	0	28°8'21.51S	26°53'37.31E	Erven
2523	MELODING	12852	0	28°9'12.65S	26°53'13.69E	Erven
2524	MELODING	12853	0	28°9'12.92S	26°53'14.01E	Erven
2525	MELODING	6372	0	28°8'57.15S	26°53'3.48E	Erven
2526	MELODING	6374	0	28°8'57.7S	26°53'4.12E	Erven
2527	MELODING	6377	0	28°8'58.52S	26°53'5.07E	Erven
2528	MELODING	5931	0	28°8'34.99S	26°53'8.08E	Erven
2529	MELODING	5933	0	28°8'35.53S	26°53'8.91E	Erven
2530	MELODING	4618	0	28°9'7S	26°53'30.72E	Erven
2531	MELODING	4620	0	28°9'7.46S	26°53'31.43E	Erven
2532	MELODING	5515	0	28°8'47.95S	26°53'17.86E	Erven
2533	MELODING	14354	0	28°8'59.54S	26°52'33.36E	Erven
2534	MELODING	14356	0	28°9'0.44S	26°52'33.5E	Erven
2535	MELODING	14775	0	28°9'2S	26°52'46.35E	Erven
2536	MELODING	14789	0	28°8'59.15S	26°52'48.18E	Erven
2537	MELODING	15021	0	28°9'11.35S	26°53'4.93E	Erven
2538	MELODING	15023	0	28°9'12.1S	26°53'4.78E	Erven
2539	MELODING	14586	0	28°9'11.82S	26°52'37.35E	Erven
2540	MELODING	14588	0	28°9'11.95S	26°52'38.36E	Erven
2541	MELODING	14163	0	28°8'57.25S	26°52'43.84E	Erven
2542	MELODING	14165	0	28°8'57.9S	26°52'43.13E	Erven
2543	MELODING	15029	0	28°9'11.69S	26°53'2.58E	Erven
2544	MELODING	15031	0	28°9'12.24S	26°53'1.97E	Erven
2545	MELODING	14171	0	28°8'59.44S	26°52'42.72E	Erven
2546	MELODING	14173	0	28°8'58.79S	26°52'43.43E	Erven
2547	MELODING	14188	0	28°8'53.14S	26°52'37.36E	Erven
2548	MELODING	14609	0	28°9'10.54S	26°52'44.62E	Erven

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2549	MELODING	15050	0	28°9'12.08S	26°53'1.14E	Erven
2550	MELODING	15052	0	28°9'11.51S	26°53'1.75E	Erven
2551	MELODING	14624	0	28°9'11.6S	26°52'50.15E	Erven
2552	MELODING	14626	0	28°9'12.52S	26°52'49.93E	Erven
2553	MELODING	14198	0	28°8'57.28S	26°52'35.47E	Erven
2554	MELODING	14200	0	28°8'58.18S	26°52'35.6E	Erven
2555	MELODING	14202	0	28°8'58.78S	26°52'34.78E	Erven
2556	MELODING	15068	0	28°9'14.79S	26°53'0.73E	Erven
2557	MELODING	15070	0	28°9'14.23S	26°53'1.33E	Erven
2558	MELODING	14209	0	28°8'55.58S	26°52'34.28E	Erven
2559	MELODING	14211	0	28°8'54.59S	26°52'34.47E	Erven
2560	MELODING	14645	0	28°9'12.74S	26°52'43.48E	Erven
2561	MELODING	14647	0	28°9'13.77S	26°52'43.71E	Erven
2562	MELODING	14654	0	28°9'13.66S	26°52'47.31E	Erven
2563	MELODING	15088	0	28°9'15.69S	26°53'3.38E	Erven
2564	MELODING	15090	0	28°9'14.82S	26°53'3.24E	Erven
2565	MELODING	14229	0	28°8'54.45S	26°52'38.99E	Erven
2566	MELODING	14231	0	28°8'55.1S	26°52'38.28E	Erven
2567	MELODING	15106	0	28°9'14.49S	26°53'6.45E	Erven
2568	MELODING	15108	0	28°9'15.08S	26°53'5.68E	Erven
2569	MELODING	14669	0	28°9'11.98S	26°52'46.09E	Erven
2570	MELODING	14671	0	28°9'11.3S	26°52'46.84E	Erven
2571	MELODING	14686	0	28°9'1.72S	26°52'43.61E	Erven
2572	MELODING	14688	0	28°9'2.5S	26°52'42.92E	Erven
2573	MELODING	15115	0	28°9'14.24S	26°53'7.74E	Erven
2574	MELODING	15117	0	28°9'13.66S	26°53'8.33E	Erven
2575	MELODING	15119	0	28°9'13.5S	26°53'9.1E	Erven
2576	MELODING	15132	0	28°9'17.34S	26°53'11.59E	Erven
2577	MELODING	15134	0	28°9'17.27S	26°53'10.65E	Erven
2578	MELODING	15137	0	28°9'16.17S	26°53'10.72E	Erven
2579	MELODING	14107	0	28°8'51.67S	26°52'35.6E	Erven
2580	MELODING	14109	0	28°8'52.73S	26°52'34.43E	Erven
2581	MELODING	14123	0	28°8'56.55S	26°52'29.3E	Erven
2582	MELODING	14125	0	28°8'56.76S	26°52'27.64E	Erven
2583	MELODING	14561	0	28°9'10.98S	26°52'32.25E	Erven
2584	MELODING	14570	0	28°9'12.65S	26°52'34.72E	Erven
2585	MELODING	14572	0	28°9'12.77S	26°52'35.74E	Erven
2586	MELODING	14134	0	28°8'50.52S	26°52'38.94E	Erven
2587	MELODING	14149	0	28°8'52.51S	26°52'44.5E	Erven
2588	MELODING	14151	0	28°8'53.15S	26°52'45.23E	Erven
2589	MELODING	4831	0	28°9'12.9S	26°53'26.82E	Erven
2590	MELODING	4829	0	28°9'12.45S	26°53'26.09E	Erven
2591	MELODING	5363	0	28°8'40.99S	26°53'23E	Erven
2592	MELODING	4003	0	28°8'47.1S	26°53'30.17E	Erven
2593	MELODING	4001	0	28°8'46.53S	26°53'29.56E	Erven
2594	MELODING	5353	0	28°8'38.29S	26°53'19.82E	Erven
2595	MELODING	5351	0	28°8'37.73S	26°53'19.21E	Erven
2596	MELODING	5806	0	28°8'32.74S	26°53'13.34E	Erven
2597	MELODING	5800	0	28°8'31.1S	26°53'11.45E	Erven
2598	MELODING	4022	0	28°8'52.34S	26°53'36.3E	Erven
2599	MELODING	4020	0	28°8'51.8S	26°53'35.64E	Erven
2600	MELODING	6300	0	28°8'55.68S	26°53'7.04E	Erven
2601	MELODING	5621	0	28°8'50.93S	26°53'4.8E	Erven
2602	MELODING	2856	0	28°8'34.41S	26°53'21.07E	Erven
2603	MELODING	3503	0	28°8'47.69S	26°53'36.08E	Erven
2604	MELODING	4462	0	28°9'1.45S	26°53'21.81E	Erven
2605	MELODING	2862	0	28°8'32.73S	26°53'22.9E	Erven
2606	MELODING	2802	0	28°8'30.09S	26°53'24.24E	Erven
2607	MELODING	5462	0	28°8'46.44S	26°53'17.98E	Erven
2608	MELODING	3126	0	28°8'43.07S	26°53'31.3E	Erven

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2609	MELODING	3535	0	28°8'52.57S	26°53'48.03E	Erven
2610	MELODING	2922	0	28°8'40.41S	26°53'27.55E	Erven
2611	MELODING	6067	0	28°8'32.97S	26°53'4.24E	Erven
2612	MELODING	6069	0	28°8'32.2S	26°53'4.24E	Erven
2613	MELODING	5623	0	28°8'50.15S	26°53'4.78E	Erven
2614	MELODING	5625	0	28°8'49.38S	26°53'4.76E	Erven
2615	MELODING	5645	0	28°8'47.89S	26°53'11.45E	Erven
2616	MELODING	4301	0	28°8'55.45S	26°53'20.5E	Erven
2617	MELODING	4734	0	28°9'4.85S	26°53'29.2E	Erven
2618	MELODING	3708	0	28°8'48.72S	26°53'46.61E	Erven
2619	MELODING	3724	0	28°8'52.27S	26°53'46.92E	Erven
2620	MELODING	3726	0	28°8'52.9S	26°53'46.42E	Erven
2621	MELODING	2857	0	28°8'34.13S	26°53'21.37E	Erven
2622	MELODING	3279	0	28°8'41.1S	26°53'41.36E	Erven
2623	MELODING	3281	0	28°8'40.46S	26°53'41.86E	Erven
2624	MELODING	3294	0	28°8'39.69S	26°53'45.63E	Erven
2625	MELODING	3296	0	28°8'40.33S	26°53'45.12E	Erven
2626	MELODING	2431	0	28°8'35.48S	26°53'56.82E	Erven
2627	MELODING	2433	0	28°8'35.64S	26°53'55.91E	Erven
2628	MELODING	2022	0	28°8'20.68S	26°53'26.87E	Erven
2629	MELODING	2025	0	28°8'21.54S	26°53'27.8E	Erven
2630	MELODING	12760	0	28°9'11.38S	26°53'16.42E	Erven
2631	MELODING	12762	0	28°9'10.78S	26°53'15.73E	Erven
2632	MELODING	12764	0	28°9'10.24S	26°53'15.1E	Erven
2633	MELODING	12950	0	28°9'15.93S	26°53'29.32E	Erven
2634	MELODING	12963	0	28°9'16.27S	26°53'27.71E	Erven
2635	MELODING	2870	0	28°8'30.48S	26°53'25.34E	Erven
2636	MELODING	2878	0	28°8'38.3S	26°53'25.08E	Erven
2637	MELODING	2041	0	28°8'20.73S	26°53'24.29E	Erven
2638	MELODING	2437	0	28°8'36.83S	26°53'54.8E	Erven
2639	MELODING	1629	0	28°8'29.83S	26°53'37.45E	Erven
2640	MELODING	1639	0	28°8'32.43S	26°53'35.08E	Erven
2641	MELODING	12781	0	28°9'7.34S	26°53'10.11E	Erven
2642	MELODING	12788	0	28°9'9.23S	26°53'12.33E	Erven
2643	MELODING	12380	0	28°8'16.95S	26°53'21.81E	Erven
2644	MELODING	12803	0	28°9'13.48S	26°53'16.6E	Erven
2645	MELODING	5953	0	28°8'30.89S	26°53'6.9E	Erven
2646	MELODING	6386	0	28°9'1.18S	26°53'7.15E	Erven
2647	MELODING	6394	0	28°8'58.98S	26°53'4.57E	Erven
2648	MELODING	5525	0	28°8'45.06S	26°53'21.01E	Erven
2649	MELODING	5532	0	28°8'44.21S	26°53'24.5E	Erven
2650	MELODING	5959	0	28°8'33.27S	26°53'6.91E	Erven
2651	MELODING	14795	0	28°9'0.74S	26°52'50.78E	Erven
2652	MELODING	14802	0	28°9'3.03S	26°52'48.29E	Erven
2653	MELODING	14367	0	28°9'2.83S	26°52'33.81E	Erven
2654	MELODING	14374	0	28°8'59.65S	26°52'32.46E	Erven
2655	MELODING	14803	0	28°9'3.36S	26°52'47.93E	Erven
2656	MELODING	12812	0	28°9'11.14S	26°53'13.51E	Erven
2657	MELODING	12819	0	28°9'9.15S	26°53'11.18E	Erven
2658	MELODING	12826	0	28°9'7.26S	26°53'8.97E	Erven
2659	MELODING	4720	0	28°9'5.9S	26°53'32.14E	Erven
2660	MELODING	4722	0	28°9'6.36S	26°53'32.86E	Erven
2661	MELODING	4298	0	28°8'54.61S	26°53'21.42E	Erven
2662	MELODING	4300	0	28°8'55.17S	26°53'20.8E	Erven
2663	MELODING	3264	0	28°8'39.57S	26°53'43.48E	Erven
2664	MELODING	3266	0	28°8'40.21S	26°53'42.97E	Erven
2665	MELODING	2833	0	28°8'29.2S	26°53'25.95E	Erven
2666	MELODING	2835	0	28°8'29.77S	26°53'26.63E	Erven
2667	MELODING	2840	0	28°8'31.21S	26°53'25.56E	Erven
2668	MELODING	2842	0	28°8'31.78S	26°53'24.95E	Erven

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2669	MELODING	2412	0	28°8'39.38S	26°53'55E	Erven
2670	MELODING	1615	0	28°8'24.71S	26°53'39.56E	Erven
2671	MELODING	1616	0	28°8'25.07S	26°53'39.41E	Erven
2672	MELODING	12750	0	28°9'9.78S	26°53'15.61E	Erven
2673	MELODING	12487	0	28°8'19.73S	26°53'12.8E	Erven
2674	MELODING	12489	0	28°8'19.17S	26°53'13.41E	Erven
2675	MELODING	12940	0	28°9'12.91S	26°53'25.8E	Erven
2676	MELODING	12942	0	28°9'13.37S	26°53'26.52E	Erven
2677	MELODING	6498	0	28°9'2.29S	26°53'1.58E	Erven
2678	MELODING	6500	0	28°9'2.84S	26°53'2.22E	Erven
2679	MELODING	6507	0	28°9'4.4S	26°53'2.99E	Erven
2680	MELODING	6509	0	28°9'3.85S	26°53'2.35E	Erven
2681	MELODING	4303	0	28°8'56.01S	26°53'19.89E	Erven
2682	MELODING	4305	0	28°8'56.57S	26°53'19.28E	Erven
2683	MELODING	4727	0	28°9'6.43S	26°53'31.72E	Erven
2684	MELODING	4729	0	28°9'5.99S	26°53'31E	Erven
2685	MELODING	14847	0	28°9'5.86S	26°52'47.15E	Erven
2686	MELODING	14429	0	28°9'2.75S	26°52'31.81E	Erven
2687	MELODING	14430	0	28°9'3.1S	26°52'32.26E	Erven
2688	MELODING	1705	0	28°8'20.56S	26°53'34.21E	Erven
2689	MELODING	1706	0	28°8'20.37S	26°53'33.82E	Erven
2690	MELODING	12866	0	28°9'13.12S	26°53'13.18E	Erven
2691	MELODING	12867	0	28°9'12.85S	26°53'12.87E	Erven
2692	MELODING	12881	0	28°9'8.97S	26°53'8.33E	Erven
2693	MELODING	12451	0	28°8'27.23S	26°53'3.25E	Erven
2694	MELODING	12452	0	28°8'27.23S	26°53'3.69E	Erven
2695	MELODING	14875	0	28°9'6.03S	26°52'53.46E	Erven
2696	MELODING	14876	0	28°9'6.51S	26°52'53.85E	Erven
2697	MELODING	14442	0	28°9'3.36S	26°52'31.25E	Erven
2698	MELODING	14456	0	28°9'4.81S	26°52'31.1E	Erven
2699	MELODING	14459	0	28°9'5.76S	26°52'32.2E	Erven
2700	MELODING	2146	0	28°8'27.43S	26°54'1.45E	Erven
2701	MELODING	2147	0	28°8'27.56S	26°54'1.87E	Erven
2702	MELODING	1726	0	28°8'22.76S	26°53'38.35E	Erven
2703	MELODING	1727	0	28°8'22.97S	26°53'39.01E	Erven
2704	MELODING	1740	0	28°8'27.75S	26°53'37.06E	Erven
2705	MELODING	1741	0	28°8'28.12S	26°53'36.91E	Erven
2706	MELODING	12465	0	28°8'16.57S	26°53'17.34E	Erven
2707	MELODING	12466	0	28°8'16.85S	26°53'17.03E	Erven
2708	MELODING	12884	0	28°9'8.16S	26°53'7.38E	Erven
2709	MELODING	12899	0	28°9'13.15S	26°53'18.07E	Erven
2710	MELODING	12900	0	28°9'12.83S	26°53'18.32E	Erven
2711	MELODING	14890	0	28°9'7.11S	26°52'51.56E	Erven
2712	MELODING	14891	0	28°9'7.43S	26°52'51.92E	Erven
2713	MELODING	2999	0	28°8'38.77S	26°53'32.64E	Erven
2714	MELODING	3000	0	28°8'39.1S	26°53'32.4E	Erven
2715	MELODING	1747	0	28°8'30.31S	26°53'36E	Erven
2716	MELODING	1748	0	28°8'30.68S	26°53'35.85E	Erven
2717	MELODING	12904	0	28°9'11.26S	26°53'18.66E	Erven
2718	MELODING	12907	0	28°9'11.12S	26°53'20.26E	Erven
2719	MELODING	14906	0	28°9'7.39S	26°52'50.55E	Erven
2720	MELODING	14472	0	28°9'4.81S	26°52'27.51E	Erven
2721	MELODING	3005	0	28°8'40.62S	26°53'31.08E	Erven
2722	MELODING	3019	0	28°8'41.86S	26°53'26.63E	Erven
2723	MELODING	3020	0	28°8'41.6S	26°53'26.3E	Erven
2724	MELODING	2586	0	28°8'22.37S	26°53'18.31E	Erven
2725	MELODING	1764	0	28°8'25.69S	26°53'37.12E	Erven
2726	MELODING	1767	0	28°8'24.6S	26°53'37.57E	Erven
2727	MELODING	14481	0	28°9'8.86S	26°52'28.13E	Erven
2728	MELODING	14482	0	28°9'9.32S	26°52'28.19E	Erven

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2729	MELODING	3454	0	28°8'46.33S	26°53'38.19E	Erven
2730	MELODING	3455	0	28°8'46.62S	26°53'38.52E	Erven
2731	MELODING	3469	0	28°8'45.11S	26°53'35.71E	Erven
2732	MELODING	3470	0	28°8'44.83S	26°53'35.38E	Erven
2733	MELODING	3473	0	28°8'43.99S	26°53'34.39E	Erven
2734	MELODING	3028	0	28°8'39.34S	26°53'23.68E	Erven
2735	MELODING	3029	0	28°8'39.07S	26°53'23.35E	Erven
2736	MELODING	2604	0	28°8'27.53S	26°53'13.7E	Erven
2737	MELODING	2607	0	28°8'27.64S	26°53'12.59E	Erven
2738	MELODING	1782	0	28°8'26.09S	26°53'35.79E	Erven
2739	MELODING	1783	0	28°8'26.46S	26°53'35.64E	Erven
2740	MELODING	14916	0	28°9'10.39S	26°52'52.22E	Erven
2741	MELODING	14917	0	28°9'10.7S	26°52'52.59E	Erven
2742	MELODING	3816	0	28°8'37.01S	26°54'0.61E	Erven
2743	MELODING	1939	0	28°8'24.57S	26°53'32.36E	Erven
2744	MELODING	1920	0	28°8'21.37S	26°53'31.23E	Erven
2745	MELODING	1862	0	28°8'25.63S	26°53'21.05E	Erven
2746	MELODING	5946	0	28°8'37.08S	26°53'9.67E	Erven
2747	MELODING	5836	0	28°8'37.15S	26°53'13.52E	Erven
2748	MELODING	6414	0	28°8'58.87S	26°53'2.85E	Erven
2749	MELODING	3053	0	28°8'35.35S	26°53'20.06E	Erven
2750	MELODING	12997	0	28°9'18.18S	26°53'23.92E	Erven
2751	MELODING	12555	0	28°8'15.6S	26°53'19.58E	Erven
2752	MELODING	12492	0	28°8'18.41S	26°53'14.16E	Erven
2753	MELODING	12564	0	28°8'19.5S	26°53'19.46E	Erven
2754	MELODING	1791	0	28°8'29.47S	26°53'34.31E	Erven
2755	MELODING	4255	0	28°8'54.16S	26°53'30.44E	Erven
2756	MELODING	5342	0	28°8'37.15S	26°53'17.37E	Erven
2757	MELODING	5340	0	28°8'37.67S	26°53'18.03E	Erven
2758	MELODING	6656	0	28°8'13.87S	26°53'24.49E	Erven
2759	MELODING	4080	0	28°8'47.58S	26°53'29.57E	Erven
2760	MELODING	4091	0	28°8'48.79S	26°53'24.94E	Erven
2761	MELODING	6605	0	28°8'22.27S	26°53'51.43E	Erven
2762	MELODING	1832	0	28°8'26.79S	26°53'33.43E	Erven
2763	MELODING	1841	0	28°8'28.01S	26°53'29.12E	Erven
2764	MELODING	1844	0	28°8'27.2S	26°53'28.17E	Erven
2765	MELODING	13032	0	28°9'17.82S	26°53'21.07E	Erven
2766	MELODING	13034	0	28°9'17.19S	26°53'21.57E	Erven
2767	MELODING	12141	0	28°8'25.9S	26°53'51.07E	Erven
2768	MELODING	12147	0	28°8'29.65S	26°53'43.04E	Erven
2769	MELODING	11680	0	28°8'16.63S	26°53'33.92E	Erven
2770	MELODING	5713	0	28°8'52.88S	26°53'10.96E	Erven
2771	MELODING	4807	0	28°9'6.58S	26°53'25.83E	Erven
2772	MELODING	4813	0	28°9'9.39S	26°53'28.17E	Erven
2773	MELODING	3794	0	28°8'55.62S	26°53'40.16E	Erven
2774	MELODING	3796	0	28°8'54.9S	26°53'39.84E	Erven
2775	MELODING	2938	0	28°8'35.4S	26°53'30.59E	Erven
2776	MELODING	3364	0	28°8'40.62S	26°53'36.79E	Erven
2777	MELODING	3369	0	28°8'41.97S	26°53'38.37E	Erven
2778	MELODING	3371	0	28°8'42.52S	26°53'39E	Erven
2779	MELODING	3373	0	28°8'43.06S	26°53'39.63E	Erven
2780	MELODING	2513	0	28°8'34.77S	26°53'45.94E	Erven
2781	MELODING	2515	0	28°8'35.09S	26°53'46.76E	Erven
2782	MELODING	2942	0	28°8'34.72S	26°53'33.26E	Erven
2783	MELODING	2944	0	28°8'35.39S	26°53'33.62E	Erven
2784	MELODING	2117	0	28°8'23.39S	26°53'21.07E	Erven
2785	MELODING	2120	0	28°8'22.57S	26°53'20.11E	Erven
2786	MELODING	2669	0	28°8'29.11S	26°53'17.32E	Erven
2787	MELODING	2673	0	28°8'28.63S	26°53'16.75E	Erven
2788	MELODING	1851	0	28°8'26.44S	26°53'25.26E	Erven

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2789	MELODING	1853	0	28°8'26.46S	26°53'24.38E	Erven
2790	MELODING	2139	0	28°8'14.2S	26°53'24.4E	Erven
2791	MELODING	6795	0	28°8'53.12S	26°53'0.97E	Erven
2792	MELODING	6711	0	28°8'53.41S	26°52'58.41E	Erven
2793	MELODING	6709	0	28°8'52.47S	26°52'59.48E	Erven
2794	MELODING	6694	0	28°8'50.76S	26°53'3.01E	Erven
2795	MELODING	6692	0	28°8'50.12S	26°53'2.62E	Erven
2796	MELODING	6679	0	28°8'44.61S	26°52'57.39E	Erven
2797	MELODING	6677	0	28°8'42.95S	26°52'57.03E	Erven
2798	MELODING	6768	0	28°8'40.35S	26°52'58.64E	Erven
2799	MELODING	6766	0	28°8'41.1S	26°52'57.82E	Erven
2800	MELODING	6751	0	28°8'36.98S	26°53'3.74E	Erven
2801	MELODING	6749	0	28°8'36.2S	26°53'4.73E	Erven
2802	MELODING	6734	0	28°8'39.34S	26°52'57.71E	Erven
2803	MELODING	6732	0	28°8'38.44S	26°52'58.51E	Erven
2804	MELODING	6671	0	28°8'34.64S	26°52'58.85E	Erven
2805	MELODING	6669	0	28°8'33.51S	26°52'59.96E	Erven
2806	MELODING	6912	0	28°8'52.52S	26°52'47.48E	Erven
2807	MELODING	6910	0	28°8'51.73S	26°52'46.62E	Erven
2808	MELODING	6894	0	28°8'49.13S	26°52'45.92E	Erven
2809	MELODING	6892	0	28°8'49.9S	26°52'46.86E	Erven
2810	MELODING	6879	0	28°8'54.23S	26°52'52.87E	Erven
2811	MELODING	6877	0	28°8'53.14S	26°52'52.65E	Erven
2812	MELODING	6862	0	28°8'47.76S	26°52'45.71E	Erven
2813	MELODING	6860	0	28°8'47.05S	26°52'47.3E	Erven
2814	MELODING	6845	0	28°8'48.28S	26°52'50.2E	Erven
2815	MELODING	6843	0	28°8'47.54S	26°52'49.35E	Erven
2816	MELODING	6828	0	28°8'45.06S	26°52'50.3E	Erven
2817	MELODING	6826	0	28°8'44.32S	26°52'49.39E	Erven
2818	MELODING	6811	0	28°8'43.75S	26°52'46.61E	Erven
2819	MELODING	6233	0	28°8'42.87S	26°53'2.2E	Erven
2820	MELODING	5791	0	28°8'29.34S	26°53'8.09E	Erven
2821	MELODING	4459	0	28°9'2.26S	26°53'22.76E	Erven
2822	MELODING	4473	0	28°8'56.75S	26°53'23.31E	Erven
2823	MELODING	3435	0	28°8'42.8S	26°53'35.63E	Erven
2824	MELODING	3442	0	28°8'42.96S	26°53'34.23E	Erven
2825	MELODING	4036	0	28°8'57.01S	26°53'35.07E	Erven
2826	MELODING	4641	0	28°9'6.93S	26°53'24.86E	Erven
2827	MELODING	4651	0	28°9'10.39S	26°53'26.61E	Erven
2828	MELODING	4658	0	28°9'11.6S	26°53'27.26E	Erven
2829	MELODING	3613	0	28°8'46.98S	26°53'48.65E	Erven
2830	MELODING	4203	0	28°8'52.38S	26°53'31.27E	Erven
2831	MELODING	4210	0	28°8'54.28S	26°53'33.48E	Erven
2832	MELODING	3176	0	28°8'46.46S	26°53'32E	Erven
2833	MELODING	3183	0	28°8'36.05S	26°53'39.57E	Erven
2834	MELODING	3190	0	28°8'38.27S	26°53'37.78E	Erven
2835	MELODING	2754	0	28°8'29.28S	26°53'21.56E	Erven
2836	MELODING	1915	0	28°8'22.36S	26°53'33.01E	Erven
2837	MELODING	1923	0	28°8'22.31S	26°53'31.23E	Erven
2838	MELODING	1579	0	28°8'17.41S	26°53'30.1E	Erven
2839	MELODING	12664	0	28°9'16.11S	26°53'15.52E	Erven
2840	MELODING	6245	0	28°8'39.5S	26°53'5.86E	Erven
2841	MELODING	5375	0	28°8'44.66S	26°53'26.67E	Erven
2842	MELODING	5382	0	28°8'46.62S	26°53'24.53E	Erven
2843	MELODING	12386	0	28°8'14.83S	26°53'22.17E	Erven
2844	MELODING	12393	0	28°8'13.42S	26°53'19.36E	Erven
2845	MELODING	12400	0	28°8'14.8S	26°53'16.58E	Erven
2846	MELODING	6403	0	28°8'56.52S	26°53'1.7E	Erven
2847	MELODING	6411	0	28°8'58.05S	26°53'1.89E	Erven
2848	MELODING	5965	0	28°8'35.81S	26°53'6.88E	Erven

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2849	MELODING	5978	0	28°8'40.81S	26°53'10.55E	Erven
2850	MELODING	5985	0	28°8'42.77S	26°53'8.42E	Erven
2851	MELODING	14805	0	28°9'4.02S	26°52'47.22E	Erven
2852	MELODING	14812	0	28°9'2.14S	26°52'47.98E	Erven
2853	MELODING	14819	0	28°8'59.85S	26°52'50.48E	Erven
2854	MELODING	14387	0	28°8'57.73S	26°52'29.93E	Erven
2855	MELODING	14395	0	28°8'58.72S	26°52'28.53E	Erven
2856	MELODING	12831	0	28°9'6.87S	26°53'6.91E	Erven
2857	MELODING	12838	0	28°9'8.77S	26°53'9.16E	Erven
2858	MELODING	12845	0	28°9'10.67S	26°53'11.37E	Erven
2859	MELODING	12413	0	28°8'18.53S	26°53'12.51E	Erven
2860	MELODING	12420	0	28°8'20.52S	26°53'10.3E	Erven
2861	MELODING	6426	0	28°9'2.35S	26°53'5.88E	Erven
2862	MELODING	6433	0	28°9'0.42S	26°53'3.61E	Erven
2863	MELODING	6440	0	28°8'58.52S	26°53'1.38E	Erven
2864	MELODING	14406	0	28°9'2.48S	26°52'27.16E	Erven
2865	MELODING	14413	0	28°9'2.17S	26°52'29.33E	Erven
2866	MELODING	14837	0	28°9'7.12S	26°52'48.4E	Erven
2867	MELODING	1690	0	28°8'21.61S	26°53'39.72E	Erven
2868	MELODING	1697	0	28°8'21.37S	26°53'36.87E	Erven
2869	MELODING	12851	0	28°9'12.39S	26°53'13.38E	Erven
2870	MELODING	12855	0	28°9'13.48S	26°53'14.65E	Erven
2871	MELODING	6809	0	28°8'44.51S	26°52'45.75E	Erven
2872	MELODING	6715	0	28°8'39.63S	26°52'50.92E	Erven
2873	MELODING	6713	0	28°8'40.61S	26°52'51.16E	Erven
2874	MELODING	2152	0	28°8'28.34S	26°54'3.84E	Erven
2875	MELODING	2150	0	28°8'28.08S	26°54'2.99E	Erven
2876	MELODING	2274	0	28°8'30.31S	26°54'3.61E	Erven
2877	MELODING	2272	0	28°8'30.97S	26°54'3.12E	Erven
2878	MELODING	2222	0	28°8'29.12S	26°53'58.57E	Erven
2879	MELODING	2212	0	28°8'32.91S	26°53'59.5E	Erven
2880	MELODING	2410	0	28°8'38.84S	26°53'55.47E	Erven
2881	MELODING	2450	0	28°8'38.42S	26°53'52.6E	Erven
2882	MELODING	2448	0	28°8'39.08S	26°53'52.1E	Erven
2883	MELODING	2333	0	28°8'35.11S	26°53'53.03E	Erven
2884	MELODING	2331	0	28°8'35.79S	26°53'52.47E	Erven
2885	MELODING	2312	0	28°8'41.36S	26°53'53.09E	Erven
2886	MELODING	2310	0	28°8'41.86S	26°53'53.81E	Erven
2887	MELODING	3089	0	28°8'36.82S	26°53'44.41E	Erven
2888	MELODING	3087	0	28°8'37.2S	26°53'45.4E	Erven
2889	MELODING	2578	0	28°8'37.18S	26°53'46.62E	Erven
2890	MELODING	2576	0	28°8'36.71S	26°53'45.91E	Erven
2891	MELODING	2560	0	28°8'33.56S	26°53'41.09E	Erven
2892	MELODING	2585	0	28°8'33.26S	26°53'39.25E	Erven
2893	MELODING	12079	0	28°8'27.43S	26°53'57.11E	Erven
2894	MELODING	12075	0	28°8'26.01S	26°53'56.76E	Erven
2895	MELODING	12061	0	28°8'24.09S	26°53'50.63E	Erven
2896	MELODING	12059	0	28°8'23.82S	26°53'49.85E	Erven
2897	MELODING	12057	0	28°8'23.57S	26°53'49.03E	Erven
2898	MELODING	12044	0	28°8'21.85S	26°53'43.7E	Erven
2899	MELODING	11827	0	28°8'22.01S	26°53'49.53E	Erven
2900	MELODING	3728	0	28°8'53.54S	26°53'45.9E	Erven
2901	MELODING	3730	0	28°8'54.17S	26°53'45.39E	Erven
2902	MELODING	2852	0	28°8'34.58S	26°53'21.9E	Erven
2903	MELODING	2854	0	28°8'35.15S	26°53'21.26E	Erven
2904	MELODING	2415	0	28°8'40.33S	26°53'54.24E	Erven
2905	MELODING	2417	0	28°8'40.31S	26°53'53.39E	Erven
2906	MELODING	2427	0	28°8'37.1S	26°53'55.93E	Erven
2907	MELODING	2429	0	28°8'36.51S	26°53'56.57E	Erven
2908	MELODING	2027	0	28°8'21.77S	26°53'27.09E	Erven

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2909	MELODING	2029	0	28°8'21.23S	26°53'26.46E	Erven
2910	MELODING	12766	0	28°9'9.7S	26°53'14.46E	Erven
2911	MELODING	12768	0	28°9'9.16S	26°53'13.83E	Erven
2912	MELODING	12952	0	28°9'16.57S	26°53'28.8E	Erven
2913	MELODING	12954	0	28°9'17.22S	26°53'28.29E	Erven
2914	MELODING	12959	0	28°9'18.84S	26°53'26.99E	Erven
2915	MELODING	12961	0	28°9'15.58S	26°53'28.24E	Erven
2916	MELODING	12511	0	28°8'16.39S	26°53'19.9E	Erven
2917	MELODING	6510	0	28°9'3.58S	26°53'2.03E	Erven
2918	MELODING	6517	0	28°9'1.67S	26°52'59.79E	Erven
2919	MELODING	6519	0	28°9'1.12S	26°52'59.15E	Erven
2920	MELODING	6082	0	28°8'30.97S	26°53'1.28E	Erven
2921	MELODING	6084	0	28°8'31.13S	26°53'0.6E	Erven
2922	MELODING	6091	0	28°8'29.33S	26°53'2.63E	Erven
2923	MELODING	6093	0	28°8'29.33S	26°53'3.51E	Erven
2924	MELODING	4319	0	28°8'53.04S	26°53'22.11E	Erven
2925	MELODING	4322	0	28°8'52.19S	26°53'23.03E	Erven
2926	MELODING	4327	0	28°8'52.33S	26°53'25.93E	Erven
2927	MELODING	4329	0	28°8'52.93S	26°53'25.78E	Erven
2928	MELODING	4331	0	28°8'53.49S	26°53'25.18E	Erven
2929	MELODING	3735	0	28°8'55.76S	26°53'44.12E	Erven
2930	MELODING	14934	0	28°9'5.02S	26°52'57.14E	Erven
2931	MELODING	14935	0	28°9'5.34S	26°52'57.51E	Erven
2932	MELODING	4078	0	28°8'48.06S	26°53'30.43E	Erven
2933	MELODING	4084	0	28°8'46.79S	26°53'27.25E	Erven
2934	MELODING	4085	0	28°8'47.06S	26°53'26.95E	Erven
2935	MELODING	3483	0	28°8'44.97S	26°53'33.95E	Erven
2936	MELODING	3484	0	28°8'45.25S	26°53'34.28E	Erven
2937	MELODING	2616	0	28°8'25.13S	26°53'15.28E	Erven
2938	MELODING	2617	0	28°8'24.86S	26°53'15.59E	Erven
2939	MELODING	3057	0	28°8'36.44S	26°53'21.33E	Erven
2940	MELODING	1798	0	28°8'28.16S	26°53'34.15E	Erven
2941	MELODING	2213	0	28°8'32.46S	26°53'59.52E	Erven
2942	MELODING	14251	0	28°8'53.51S	26°52'43.07E	Erven
2943	MELODING	14252	0	28°8'53.84S	26°52'42.71E	Erven
2944	MELODING	14507	0	28°9'10.07S	26°52'31.15E	Erven
2945	MELODING	4522	0	28°8'59.46S	26°53'26.48E	Erven
2946	MELODING	4525	0	28°9'0.3S	26°53'25.56E	Erven
2947	MELODING	3499	0	28°8'48.82S	26°53'37.4E	Erven
2948	MELODING	3500	0	28°8'48.54S	26°53'37.06E	Erven
2949	MELODING	4103	0	28°8'52.21S	26°53'21.35E	Erven
2950	MELODING	3059	0	28°8'36.98S	26°53'21.97E	Erven
2951	MELODING	3074	0	28°8'41.13S	26°53'26.81E	Erven
2952	MELODING	3077	0	28°8'41.94S	26°53'27.77E	Erven
2953	MELODING	2637	0	28°8'27.9S	26°53'15.95E	Erven
2954	MELODING	2638	0	28°8'28.18S	26°53'15.64E	Erven
2955	MELODING	14263	0	28°8'57.44S	26°52'38.79E	Erven
2956	MELODING	14264	0	28°8'57.77S	26°52'38.43E	Erven
2957	MELODING	14696	0	28°9'2.29S	26°52'41.67E	Erven
2958	MELODING	14699	0	28°9'1.15S	26°52'42.95E	Erven
2959	MELODING	14509	0	28°9'10.72S	26°52'30.44E	Erven
2960	MELODING	12965	0	28°9'16.9S	26°53'27.2E	Erven
2961	MELODING	12507	0	28°8'15.1S	26°53'20.43E	Erven
2962	MELODING	12509	0	28°8'15.74S	26°53'20.39E	Erven
2963	MELODING	6521	0	28°9'0.58S	26°52'58.52E	Erven
2964	MELODING	6523	0	28°9'0.03S	26°52'57.88E	Erven
2965	MELODING	6078	0	28°8'29.95S	26°53'2.59E	Erven
2966	MELODING	6080	0	28°8'30.42S	26°53'1.88E	Erven
2967	MELODING	4737	0	28°9'4.03S	26°53'28.52E	Erven
2968	MELODING	4739	0	28°9'6.03S	26°53'35.88E	Erven

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2969	MELODING	4315	0	28°8'54.16S	26°53'20.89E	Erven
2970	MELODING	4317	0	28°8'53.59S	26°53'21.5E	Erven
2971	MELODING	4333	0	28°8'54.05S	26°53'24.57E	Erven
2972	MELODING	4335	0	28°8'54.62S	26°53'23.96E	Erven
2973	MELODING	3304	0	28°8'42.89S	26°53'43.07E	Erven
2974	MELODING	3306	0	28°8'43.52S	26°53'42.56E	Erven
2975	MELODING	3733	0	28°8'55.13S	26°53'44.63E	Erven
2976	MELODING	3746	0	28°8'55.08S	26°53'43.78E	Erven
2977	MELODING	2866	0	28°8'31.61S	26°53'24.12E	Erven
2978	MELODING	2882	0	28°8'37.22S	26°53'23.82E	Erven
2979	MELODING	2884	0	28°8'36.67S	26°53'23.19E	Erven
2980	MELODING	2440	0	28°8'37.79S	26°53'54.03E	Erven
2981	MELODING	2442	0	28°8'38.42S	26°53'53.52E	Erven
2982	MELODING	12774	0	28°9'7.39S	26°53'11.86E	Erven
2983	MELODING	12776	0	28°9'5.99S	26°53'8.53E	Erven
2984	MELODING	12377	0	28°8'15.94S	26°53'22.58E	Erven
2985	MELODING	12808	0	28°9'12.22S	26°53'14.78E	Erven
2986	MELODING	1855	0	28°8'26.48S	26°53'23.5E	Erven
2987	MELODING	13037	0	28°9'16.23S	26°53'22.34E	Erven
2988	MELODING	13039	0	28°9'15.59S	26°53'22.84E	Erven
2989	MELODING	13045	0	28°9'13.69S	26°53'24.38E	Erven
2990	MELODING	13047	0	28°9'12.76S	26°53'23.76E	Erven
2991	MELODING	13049	0	28°9'13.44S	26°53'23.22E	Erven
2992	MELODING	12584	0	28°8'22.05S	26°53'15.68E	Erven
2993	MELODING	12586	0	28°8'21.49S	26°53'16.29E	Erven
2994	MELODING	12591	0	28°8'20.09S	26°53'17.81E	Erven
2995	MELODING	11681	0	28°8'16.76S	26°53'34.34E	Erven
2996	MELODING	12177	0	28°8'25.7S	26°53'46.84E	Erven
2997	MELODING	6164	0	28°8'43.15S	26°52'59.35E	Erven
2998	MELODING	6171	0	28°8'41.18S	26°53'1.49E	Erven
2999	MELODING	6173	0	28°8'40.62S	26°53'2.1E	Erven
3000	MELODING	5734	0	28°8'52.1S	26°53'8.45E	Erven
3001	MELODING	5736	0	28°8'52.7S	26°53'8.62E	Erven
3002	MELODING	5744	0	28°8'52.31S	26°53'14.12E	Erven
3003	MELODING	5746	0	28°8'52.91S	26°53'13.49E	Erven
3004	MELODING	3383	0	28°8'50.12S	26°53'39.08E	Erven
3005	MELODING	3385	0	28°8'49.51S	26°53'39.11E	Erven
3006	MELODING	3390	0	28°8'43.53S	26°53'39.12E	Erven
3007	MELODING	3392	0	28°8'42.98S	26°53'38.49E	Erven
3008	MELODING	2956	0	28°8'39.37S	26°53'30.84E	Erven
3009	MELODING	2958	0	28°8'39.93S	26°53'30.21E	Erven
3010	MELODING	2965	0	28°8'38.04S	26°53'30.91E	Erven
3011	MELODING	2967	0	28°8'37.37S	26°53'31.37E	Erven
3012	MELODING	6631	0	28°8'24.7S	26°53'58.05E	Erven
3013	MELODING	21648	0	28°8'25.96S	26°54'1.71E	Erven
3014	MELODING	6528	0	28°9'0.58S	26°52'56.5E	Erven
3015	MELODING	6526	0	28°9'0.04S	26°52'55.89E	Erven
3016	MELODING	6151	0	28°8'48.62S	26°52'58.95E	Erven
3017	MELODING	6121	0	28°8'39.18S	26°53'4.6E	Erven
3018	MELODING	6254	0	28°8'41.13S	26°53'7.53E	Erven
3019	MELODING	6287	0	28°8'40.42S	26°53'7.32E	Erven
3020	MELODING	5575	0	28°8'44.97S	26°53'7.74E	Erven
3021	MELODING	5636	0	28°8'45.56S	26°53'7.13E	Erven
3022	MELODING	5688	0	28°8'49.16S	26°53'7.36E	Erven
3023	MELODING	5686	0	28°8'48.39S	26°53'6.41E	Erven
3024	MELODING	5652	0	28°8'48.99S	26°53'11.37E	Erven
3025	MELODING	5650	0	28°8'49.55S	26°53'12E	Erven
3026	MELODING	5546	0	28°8'48.47S	26°53'20.74E	Erven
3027	MELODING	5559	0	28°8'48.86S	26°53'19.31E	Erven
3028	MELODING	4111	0	28°8'54.51S	26°53'18.77E	Erven

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3029	MELODING	4310	0	28°8'55.62S	26°53'19.19E	Erven
3030	MELODING	4539	0	28°8'58.51S	26°53'26.39E	Erven
3031	MELODING	4537	0	28°8'59.08S	26°53'25.79E	Erven
3032	MELODING	4373	0	28°8'55.86S	26°53'29.61E	Erven
3033	MELODING	4254	0	28°8'53.94S	26°53'30.05E	Erven
3034	MELODING	4142	0	28°8'49.42S	26°53'30.14E	Erven
3035	MELODING	4140	0	28°8'48.87S	26°53'29.49E	Erven
3036	MELODING	4810	0	28°9'8.77S	26°53'26.94E	Erven
3037	MELODING	4808	0	28°9'8.29S	26°53'26.09E	Erven
3038	MELODING	4710	0	28°9'3.11S	26°53'29.26E	Erven
3039	MELODING	4708	0	28°9'3.62S	26°53'30.09E	Erven
3040	MELODING	11789	0	28°8'18.96S	26°53'40.73E	Erven
3041	MELODING	11787	0	28°8'18.69S	26°53'39.89E	Erven
3042	MELODING	2533	0	28°8'36.72S	26°53'48.02E	Erven
3043	MELODING	3118	0	28°8'40.74S	26°53'33.69E	Erven
3044	MELODING	3123	0	28°8'42.22S	26°53'32.22E	Erven
3045	MELODING	3125	0	28°8'42.78S	26°53'31.61E	Erven
3046	MELODING	2691	0	28°8'29.53S	26°53'19.46E	Erven
3047	MELODING	2693	0	28°8'30.1S	26°53'18.83E	Erven
3048	MELODING	2700	0	28°8'32.05S	26°53'15.92E	Erven
3049	MELODING	2702	0	28°8'32.03S	26°53'15.11E	Erven
3050	MELODING	1881	0	28°8'25.82S	26°53'23.93E	Erven
3051	MELODING	2268	0	28°8'32.12S	26°54'2.17E	Erven
3052	MELODING	13062	0	28°9'17.62S	26°53'19.86E	Erven
3053	MELODING	13064	0	28°9'16.88S	26°53'19.57E	Erven
3054	MELODING	13072	0	28°9'14.34S	26°53'21.61E	Erven
3055	MELODING	13074	0	28°9'13.7S	26°53'22.12E	Erven
3056	MELODING	12611	0	28°9'1.08S	26°53'11.71E	Erven
3057	MELODING	12613	0	28°9'1.63S	26°53'11.1E	Erven
3058	MELODING	5756	0	28°8'54.49S	26°53'10.75E	Erven
3059	MELODING	5758	0	28°8'53.91S	26°53'11.38E	Erven
3060	MELODING	6190	0	28°8'39.96S	26°53'6.39E	Erven
3061	MELODING	6192	0	28°8'40.52S	26°53'5.78E	Erven
3062	MELODING	6194	0	28°8'41.08S	26°53'5.17E	Erven
3063	MELODING	5331	0	28°8'40.04S	26°53'21.06E	Erven
3064	MELODING	3832	0	28°8'32.32S	26°54'0.23E	Erven
3065	MELODING	3834	0	28°8'33.08S	26°54'0.42E	Erven
3066	MELODING	3839	0	28°8'34.98S	26°54'0.91E	Erven
3067	MELODING	4427	0	28°8'55.98S	26°53'28.98E	Erven
3068	MELODING	3405	0	28°8'41.78S	26°53'35.49E	Erven
3069	MELODING	12862	0	28°9'14.23S	26°53'14.59E	Erven
3070	MELODING	14852	0	28°9'4.21S	26°52'48.94E	Erven
3071	MELODING	14428	0	28°9'2.25S	26°52'31.52E	Erven
3072	MELODING	14435	0	28°9'4.71S	26°52'34.13E	Erven
3073	MELODING	14859	0	28°9'1.93S	26°52'51.43E	Erven
3074	MELODING	1712	0	28°8'19.53S	26°53'31.2E	Erven
3075	MELODING	2134	0	28°8'18.41S	26°53'22.34E	Erven
3076	MELODING	12868	0	28°9'12.58S	26°53'12.55E	Erven
3077	MELODING	12879	0	28°9'9.52S	26°53'8.96E	Erven
3078	MELODING	12446	0	28°8'25.26S	26°53'5.05E	Erven
3079	MELODING	12457	0	28°8'27.87S	26°53'4.57E	Erven
3080	MELODING	14874	0	28°9'5.71S	26°52'53.09E	Erven
3081	MELODING	14881	0	28°9'6.3S	26°52'52.45E	Erven
3082	MELODING	14447	0	28°9'0.94S	26°52'30.43E	Erven
3083	MELODING	14454	0	28°9'4.18S	26°52'30.36E	Erven
3084	MELODING	14461	0	28°9'6.68S	26°52'31.98E	Erven
3085	MELODING	2546	0	28°8'34.45S	26°53'42.79E	Erven
3086	MELODING	1721	0	28°8'17.85S	26°53'27.83E	Erven
3087	MELODING	1728	0	28°8'23.35S	26°53'38.87E	Erven
3088	MELODING	1739	0	28°8'27.38S	26°53'37.21E	Erven

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3089	MELODING	12464	0	28°8'16.27S	26°53'17.66E	Erven
3090	MELODING	12886	0	28°9'7.62S	26°53'6.75E	Erven
3091	MELODING	12894	0	28°9'14.73S	26°53'16.79E	Erven
3092	MELODING	14468	0	28°9'4.53S	26°52'29.22E	Erven
3093	MELODING	14892	0	28°9'7.74S	26°52'52.3E	Erven
3094	MELODING	14896	0	28°9'9.14S	26°52'53.91E	Erven
3095	MELODING	14903	0	28°9'8.33S	26°52'51.66E	Erven
3096	MELODING	12566	0	28°8'20.06S	26°53'18.76E	Erven
3097	MELODING	12375	0	28°8'15.35S	26°53'22.87E	Erven
3098	MELODING	1983	0	28°8'21.03S	26°53'29.68E	Erven
3099	MELODING	1981	0	28°8'20.27S	26°53'29.95E	Erven
3100	MELODING	1607	0	28°8'21.84S	26°53'40.59E	Erven
3101	MELODING	1605	0	28°8'21.05S	26°53'40.83E	Erven
3102	MELODING	12421	0	28°8'21.05S	26°53'9.84E	Erven
3103	MELODING	12443	0	28°8'24.84S	26°53'6E	Erven
3104	MELODING	22265	0	28°8'27.02S	26°53'41.16E	Erven
3105	MELODING	22265	18	28°8'27.27S	26°53'41.68E	Erven
3106	MELODING	22265	16	28°8'27.09S	26°53'40.37E	Erven
3107	MELODING	12144	0	28°8'29.62S	26°53'40.33E	Erven
3108	MELODING	12142	0	28°8'25.23S	26°53'42.1E	Erven
3109	VENTERSBURG	12434	61	28°8'25.88S	26°53'11.61E	Erven
3110	VENTERSBURG	12434	59	28°8'26.59S	26°53'10.88E	Erven
3111	VENTERSBURG	12434	46	28°8'23.45S	26°53'8.82E	Erven
3112	VENTERSBURG	12434	44	28°8'24.24S	26°53'8.09E	Erven
3113	VENTERSBURG	12434	29	28°8'26.66S	26°53'11.72E	Erven
3114	MELODING	3737	0	28°8'56.33S	26°53'43.48E	Erven
3115	MELODING	3742	0	28°8'56.04S	26°53'42.22E	Erven
3116	MELODING	3744	0	28°8'55.73S	26°53'43.11E	Erven
3117	MELODING	2038	0	28°8'19.89S	26°53'23.31E	Erven
3118	MELODING	2040	0	28°8'20.45S	26°53'23.98E	Erven
3119	MELODING	2436	0	28°8'36.52S	26°53'55.05E	Erven
3120	MELODING	2438	0	28°8'37.15S	26°53'54.54E	Erven
3121	MELODING	12778	0	28°9'6.52S	26°53'9.16E	Erven
3122	MELODING	12780	0	28°9'7.06S	26°53'9.79E	Erven
3123	MELODING	12787	0	28°9'8.96S	26°53'12.01E	Erven
3124	MELODING	12789	0	28°9'9.5S	26°53'12.65E	Erven
3125	MELODING	12379	0	28°8'16.59S	26°53'22.08E	Erven
3126	MELODING	12381	0	28°8'16.57S	26°53'21.17E	Erven
3127	MELODING	12804	0	28°9'13.26S	26°53'16.22E	Erven
3128	MELODING	12806	0	28°9'12.78S	26°53'15.46E	Erven
3129	MELODING	5950	0	28°8'35.99S	26°53'8.4E	Erven
3130	MELODING	5952	0	28°8'30.89S	26°53'6.19E	Erven
3131	MELODING	5954	0	28°8'31.32S	26°53'6.91E	Erven
3132	MELODING	5524	0	28°8'45.34S	26°53'20.71E	Erven
3133	MELODING	5526	0	28°8'44.78S	26°53'21.32E	Erven
3134	MELODING	5531	0	28°8'43.37S	26°53'22.84E	Erven
3135	MELODING	5533	0	28°8'44.65S	26°53'25.01E	Erven
3136	MELODING	14794	0	28°9'0.41S	26°52'51.14E	Erven
3137	MELODING	14796	0	28°9'1.07S	26°52'50.43E	Erven
3138	MELODING	14366	0	28°9'3.15S	26°52'34.17E	Erven
3139	MELODING	14368	0	28°9'2.52S	26°52'33.44E	Erven
3140	MELODING	14523	0	28°9'4.92S	26°52'35.48E	Erven
3141	MELODING	14524	0	28°9'4.6S	26°52'35.84E	Erven
3142	MELODING	5428	0	28°8'55.32S	26°53'15.06E	Erven
3143	MELODING	5443	0	28°8'56.14S	26°53'10.53E	Erven
3144	MELODING	5445	0	28°8'40.83S	26°53'14.39E	Erven
3145	MELODING	3510	0	28°8'45.72S	26°53'33.77E	Erven
3146	MELODING	3511	0	28°8'45.43S	26°53'33.45E	Erven
3147	MELODING	3528	0	28°8'50.34S	26°53'49.81E	Erven
3148	MELODING	3531	0	28°8'51.3S	26°53'49.05E	Erven

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3149	MELODING	14703	0	28°8'59.84S	26°52'44.37E	Erven
3150	MELODING	14704	0	28°8'59.49S	26°52'44.78E	Erven
3151	MELODING	15140	0	28°9'16.43S	26°53'9.69E	Erven
3152	MELODING	15141	0	28°9'16.83S	26°53'9.63E	Erven
3153	MELODING	14279	0	28°8'54.26S	26°52'40.99E	Erven
3154	MELODING	14282	0	28°8'53.28S	26°52'42.05E	Erven
3155	MELODING	14962	0	28°9'7.86S	26°52'56.34E	Erven
3156	MELODING	14963	0	28°9'9.59S	26°52'56.51E	Erven
3157	MELODING	14099	0	28°8'49.05S	26°52'38.45E	Erven
3158	MELODING	14100	0	28°8'49.38S	26°52'38.1E	Erven
3159	MELODING	5884	0	28°8'35.09S	26°53'13.68E	Erven
3160	MELODING	5885	0	28°8'35.39S	26°53'14.01E	Erven
3161	MELODING	4557	0	28°9'6.47S	26°53'36.9E	Erven
3162	MELODING	4558	0	28°9'6.78S	26°53'36.65E	Erven
3163	MELODING	4561	0	28°9'7.74S	26°53'35.88E	Erven
3164	MELODING	4118	0	28°8'56.52S	26°53'16.55E	Erven
3165	MELODING	4119	0	28°8'57.01S	26°53'16.52E	Erven
3166	MELODING	3105	0	28°8'36.32S	26°53'36.78E	Erven
3167	MELODING	3106	0	28°8'36.65S	26°53'36.54E	Erven
3168	MELODING	3545	0	28°8'56.17S	26°53'45.14E	Erven
3169	MELODING	3548	0	28°8'57.13S	26°53'44.38E	Erven
3170	VENTERSBURG	12434	27	28°8'25.98S	26°53'12.52E	Erven
3171	VENTERSBURG	12434	12	28°8'22.83S	26°53'7.85E	Erven
3172	VENTERSBURG	12434	10	28°8'23.54S	26°53'7.07E	Erven
3173	MELODING	5956	0	28°8'32.1S	26°53'6.91E	Erven
3174	MELODING	6384	0	28°9'0.42S	26°53'7.31E	Erven
3175	MELODING	6398	0	28°8'57.89S	26°53'3.29E	Erven
3176	MELODING	6400	0	28°8'57.35S	26°53'2.65E	Erven
3177	MELODING	5522	0	28°8'45.9S	26°53'20.1E	Erven
3178	MELODING	5535	0	28°8'45.24S	26°53'24.38E	Erven
3179	MELODING	5537	0	28°8'45.79S	26°53'23.77E	Erven
3180	MELODING	14798	0	28°9'1.72S	26°52'49.71E	Erven
3181	MELODING	14800	0	28°9'2.37S	26°52'49E	Erven
3182	MELODING	14362	0	28°9'2.88S	26°52'35.18E	Erven
3183	MELODING	14364	0	28°9'3.8S	26°52'34.96E	Erven
3184	MELODING	14378	0	28°8'57.84S	26°52'32.18E	Erven
3185	MELODING	14380	0	28°8'58.17S	26°52'26.33E	Erven
3186	MELODING	14382	0	28°8'58.04S	26°52'27.39E	Erven
3187	MELODING	12814	0	28°9'10.6S	26°53'12.87E	Erven
3188	MELODING	12816	0	28°9'9.97S	26°53'12.13E	Erven
3189	MELODING	12397	0	28°8'13.95S	26°53'17.5E	Erven
3190	MELODING	12399	0	28°8'14.52S	26°53'16.88E	Erven
3191	MELODING	6404	0	28°8'56.25S	26°53'1.37E	Erven
3192	MELODING	6406	0	28°8'56.67S	26°53'0.25E	Erven
3193	MELODING	5981	0	28°8'41.65S	26°53'9.63E	Erven
3194	MELODING	5983	0	28°8'42.21S	26°53'9.02E	Erven
3195	MELODING	14815	0	28°9'1.16S	26°52'49.05E	Erven
3196	MELODING	14817	0	28°9'0.51S	26°52'49.77E	Erven
3197	MELODING	14400	0	28°8'59.79S	26°52'26.75E	Erven
3198	MELODING	14402	0	28°9'0.69S	26°52'26.88E	Erven
3199	MELODING	2561	0	28°8'33.86S	26°53'41.02E	Erven
3200	MELODING	2165	0	28°8'31.02S	26°54'5.3E	Erven
3201	MELODING	1746	0	28°8'29.94S	26°53'36.15E	Erven
3202	MELODING	1754	0	28°8'29.36S	26°53'35.62E	Erven
3203	MELODING	12909	0	28°9'10.88S	26°53'21.35E	Erven
3204	MELODING	14908	0	28°9'6.76S	26°52'49.82E	Erven
3205	MELODING	14470	0	28°9'3.86S	26°52'27.36E	Erven
3206	MELODING	3007	0	28°8'41.18S	26°53'30.47E	Erven
3207	MELODING	3014	0	28°8'43.25S	26°53'28.3E	Erven
3208	MELODING	3450	0	28°8'45.21S	26°53'36.87E	Erven

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3209	MELODING	2590	0	28°8'23.65S	26°53'17.92E	Erven
3210	MELODING	1762	0	28°8'26.43S	26°53'36.82E	Erven
3211	MELODING	1769	0	28°8'23.86S	26°53'37.87E	Erven
3212	MELODING	14476	0	28°9'6.61S	26°52'27.78E	Erven
3213	MELODING	14487	0	28°9'11.65S	26°52'28.46E	Erven
3214	MELODING	14495	0	28°9'6.14S	26°52'35.43E	Erven
3215	MELODING	3456	0	28°8'46.9S	26°53'38.85E	Erven
3216	MELODING	3468	0	28°8'45.39S	26°53'36.03E	Erven
3217	MELODING	3475	0	28°8'43.42S	26°53'33.72E	Erven
3218	MELODING	2601	0	28°8'26.7S	26°53'14.6E	Erven
3219	MELODING	3034	0	28°8'37.72S	26°53'21.77E	Erven
3220	MELODING	3041	0	28°8'35.83S	26°53'19.56E	Erven
3221	MELODING	2602	0	28°8'26.97S	26°53'14.3E	Erven
3222	MELODING	2609	0	28°8'27.07S	26°53'13.18E	Erven
3223	MELODING	1777	0	28°8'24.27S	26°53'36.54E	Erven
3224	MELODING	1788	0	28°8'28.29S	26°53'34.88E	Erven
3225	MELODING	14915	0	28°9'10.07S	26°52'51.85E	Erven
3226	MELODING	14922	0	28°9'12.23S	26°52'53.06E	Erven
3227	MELODING	14929	0	28°9'10.02S	26°52'50.48E	Erven
3228	MELODING	4063	0	28°8'52.21S	26°53'35.28E	Erven
3229	MELODING	4070	0	28°8'50.22S	26°53'32.97E	Erven
3230	MELODING	3045	0	28°8'34.74S	26°53'18.28E	Erven
3231	MELODING	3482	0	28°8'44.69S	26°53'33.62E	Erven
3232	MELODING	3489	0	28°8'46.66S	26°53'35.93E	Erven
3233	MELODING	2611	0	28°8'26.52S	26°53'13.78E	Erven
3234	MELODING	2622	0	28°8'23.48S	26°53'17.09E	Erven
3235	MELODING	3055	0	28°8'35.9S	26°53'20.7E	Erven
3236	MELODING	2214	0	28°8'32.08S	26°53'59.42E	Erven
3237	MELODING	14246	0	28°8'52.25S	26°52'40.11E	Erven
3238	MELODING	14502	0	28°9'8.44S	26°52'32.94E	Erven
3239	MELODING	14506	0	28°9'9.74S	26°52'31.51E	Erven
3240	MELODING	4516	0	28°8'57.77S	26°53'28.31E	Erven
3241	MELODING	4527	0	28°9'0.86S	26°53'24.95E	Erven
3242	MELODING	3498	0	28°8'49.31S	26°53'37.8E	Erven
3243	MELODING	4087	0	28°8'47.63S	26°53'26.34E	Erven
3244	MELODING	4098	0	28°8'50.8S	26°53'22.88E	Erven
3245	MELODING	3064	0	28°8'38.33S	26°53'23.54E	Erven
3246	MELODING	3072	0	28°8'40.59S	26°53'26.18E	Erven
3247	MELODING	3506	0	28°8'46.84S	26°53'35.09E	Erven
3248	MELODING	2636	0	28°8'27.62S	26°53'16.26E	Erven
3249	MELODING	2644	0	28°8'28.54S	26°53'14.17E	Erven
3250	MELODING	14258	0	28°8'55.8S	26°52'40.57E	Erven
3251	MELODING	14269	0	28°8'57.6S	26°52'37.35E	Erven
3252	MELODING	14694	0	28°9'3.14S	26°52'42.43E	Erven
3253	MELODING	14511	0	28°9'9.49S	26°52'30.08E	Erven
3254	MELODING	14518	0	28°9'6.56S	26°52'33.7E	Erven
3255	MELODING	14946	0	28°9'7.19S	26°52'58.35E	Erven
3256	MELODING	5430	0	28°8'55.88S	26°53'14.45E	Erven
3257	MELODING	5438	0	28°8'56.33S	26°53'9.71E	Erven
3258	MELODING	5392	0	28°8'49.52S	26°53'21.37E	Erven
3259	MELODING	4045	0	28°8'56.98S	26°53'33.16E	Erven
3260	MELODING	4052	0	28°8'55.97S	26°53'36.02E	Erven
3261	MELODING	4483	0	28°8'56.37S	26°53'27.29E	Erven
3262	MELODING	4662	0	28°9'10.7S	26°53'25.82E	Erven
3263	MELODING	5542	0	28°8'47.2S	26°53'22.25E	Erven
3264	MELODING	4218	0	28°8'54.47S	26°53'32.66E	Erven
3265	MELODING	4225	0	28°8'52.58S	26°53'30.45E	Erven
3266	MELODING	4670	0	28°9'7.8S	26°53'24.27E	Erven
3267	MELODING	3623	0	28°8'47.53S	26°53'46.22E	Erven
3268	MELODING	3630	0	28°8'49.75S	26°53'44.45E	Erven

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3269	MELODING	3637	0	28°8'51.98S	26°53'42.66E	Erven
3270	MELODING	2765	0	28°8'27.61S	26°53'25.79E	Erven
3271	MELODING	2772	0	28°8'29.28S	26°53'27.68E	Erven
3272	MELODING	3200	0	28°8'37.22S	26°53'37.63E	Erven
3273	MELODING	2338	0	28°8'33.81S	26°53'53.55E	Erven
3274	MELODING	2345	0	28°8'33.91S	26°53'56.31E	Erven
3275	MELODING	1583	0	28°8'17.91S	26°53'31.77E	Erven
3276	MELODING	1943	0	28°8'25.96S	26°53'31.82E	Erven
3277	MELODING	1950	0	28°8'23.35S	26°53'32.02E	Erven
3278	MELODING	12665	0	28°9'16.34S	26°53'15.9E	Erven
3279	MELODING	12673	0	28°9'15.04S	26°53'18.79E	Erven
3280	MELODING	12684	0	28°9'14.14S	26°53'20.41E	Erven
3281	MELODING	6251	0	28°8'40.24S	26°53'8.63E	Erven
3282	MELODING	6261	0	28°8'43.05S	26°53'5.57E	Erven
3283	MELODING	5397	0	28°8'50.92S	26°53'19.85E	Erven
3284	MELODING	14373	0	28°9'0.09S	26°52'32.53E	Erven
3285	MELODING	14375	0	28°8'59.2S	26°52'32.39E	Erven
3286	MELODING	12818	0	28°9'9.43S	26°53'11.5E	Erven
3287	MELODING	12820	0	28°9'8.88S	26°53'10.87E	Erven
3288	MELODING	12401	0	28°8'15.08S	26°53'16.27E	Erven
3289	MELODING	12403	0	28°8'15.63S	26°53'15.67E	Erven
3290	MELODING	12408	0	28°8'17.13S	26°53'14.03E	Erven
3291	MELODING	6402	0	28°8'56.8S	26°53'2.01E	Erven
3292	MELODING	5964	0	28°8'35.35S	26°53'6.91E	Erven
3293	MELODING	5977	0	28°8'39.98S	26°53'10.94E	Erven
3294	MELODING	5979	0	28°8'41.09S	26°53'10.24E	Erven
3295	MELODING	14804	0	28°9'3.69S	26°52'47.58E	Erven
3296	MELODING	14806	0	28°9'4.37S	26°52'46.82E	Erven
3297	MELODING	14811	0	28°9'2.47S	26°52'47.63E	Erven
3298	MELODING	14813	0	28°9'1.81S	26°52'48.34E	Erven
3299	MELODING	14386	0	28°8'57.79S	26°52'29.42E	Erven
3300	MELODING	14388	0	28°8'57.68S	26°52'30.44E	Erven
3301	MELODING	14396	0	28°8'58.78S	26°52'28.02E	Erven
3302	MELODING	14398	0	28°8'58.82S	26°52'26.87E	Erven
3303	MELODING	12844	0	28°9'10.4S	26°53'11.05E	Erven
3304	MELODING	12846	0	28°9'11.03S	26°53'11.79E	Erven
3305	MELODING	12848	0	28°9'11.57S	26°53'12.43E	Erven
3306	MELODING	6422	0	28°9'1.05S	26°53'5.4E	Erven
3307	MELODING	6425	0	28°9'1.89S	26°53'6.37E	Erven
3308	MELODING	6432	0	28°9'0.7S	26°53'3.93E	Erven
3309	MELODING	6434	0	28°9'0.15S	26°53'3.3E	Erven
3310	MELODING	14412	0	28°9'1.69S	26°52'29.25E	Erven
3311	MELODING	15157	0	28°9'15.94S	26°53'8.29E	Erven
3312	MELODING	15158	0	28°9'15.87S	26°53'7.83E	Erven
3313	MELODING	14723	0	28°8'58.62S	26°52'51.54E	Erven
3314	MELODING	14724	0	28°8'58.94S	26°52'51.9E	Erven
3315	MELODING	14306	0	28°8'56.27S	26°52'41.85E	Erven
3316	MELODING	14307	0	28°8'55.94S	26°52'42.21E	Erven
3317	MELODING	14527	0	28°9'4.06S	26°52'40.8E	Erven
3318	MELODING	14528	0	28°9'4.41S	26°52'40.42E	Erven
3319	MELODING	14546	0	28°9'7.18S	26°52'37.67E	Erven
3320	MELODING	14547	0	28°9'6.85S	26°52'38.03E	Erven
3321	MELODING	6334	0	28°8'56.25S	26°53'5.07E	Erven
3322	MELODING	6337	0	28°8'57.07S	26°53'6.03E	Erven
3323	MELODING	6338	0	28°8'57.34S	26°53'6.34E	Erven
3324	MELODING	5472	0	28°8'49.46S	26°53'15.92E	Erven
3325	MELODING	5473	0	28°8'49.73S	26°53'16.23E	Erven
3326	MELODING	4143	0	28°8'49.59S	26°53'30.64E	Erven
3327	MELODING	4568	0	28°9'9.96S	26°53'34.1E	Erven
3328	MELODING	4582	0	28°9'12.71S	26°53'29.66E	Erven

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3329	MELODING	4585	0	28°9'13.5S	26°53'30.28E	Erven
3330	MELODING	4586	0	28°9'13.72S	26°53'30.64E	Erven
3331	MELODING	3558	0	28°9'0.16S	26°53'42.15E	Erven
3332	MELODING	3559	0	28°8'44.32S	26°53'45.67E	Erven
3333	MELODING	14739	0	28°9'2.99S	26°52'56.61E	Erven
3334	MELODING	14740	0	28°9'3.31S	26°52'56.98E	Erven
3335	MELODING	14322	0	28°9'2S	26°52'38.71E	Erven
3336	MELODING	14323	0	28°9'1.62S	26°52'39.08E	Erven
3337	MELODING	14549	0	28°9'10.24S	26°52'34.33E	Erven
3338	MELODING	14550	0	28°9'10.57S	26°52'33.98E	Erven
3339	MELODING	14986	0	28°9'10.65S	26°53'1.16E	Erven
3340	MELODING	14987	0	28°9'10.93S	26°53'0.85E	Erven
3341	MELODING	5915	0	28°8'36.56S	26°53'12.74E	Erven
3342	MELODING	5916	0	28°8'37.02S	26°53'12.26E	Erven
3343	MELODING	6358	0	28°8'56.72S	26°53'4.57E	Erven
3344	MELODING	6359	0	28°8'56.45S	26°53'4.24E	Erven
3345	MELODING	5490	0	28°8'43.52S	26°53'23.68E	Erven
3346	MELODING	5493	0	28°8'44.38S	26°53'22.76E	Erven
3347	MELODING	4161	0	28°8'54.85S	26°53'36.18E	Erven
3348	MELODING	4162	0	28°8'55.02S	26°53'35.75E	Erven
3349	MELODING	4617	0	28°9'6.78S	26°53'30.36E	Erven
3350	MELODING	14754	0	28°9'8.4S	26°53'0.82E	Erven
3351	MELODING	14755	0	28°9'8.73S	26°53'0.47E	Erven
3352	MELODING	14769	0	28°9'0.04S	26°52'48.48E	Erven
3353	MELODING	14772	0	28°9'1.02S	26°52'47.42E	Erven
3354	MELODING	14773	0	28°9'1.35S	26°52'47.06E	Erven
3355	MELODING	14330	0	28°9'0.87S	26°52'41.16E	Erven
3356	MELODING	14331	0	28°9'1.2S	26°52'40.81E	Erven
3357	MELODING	6366	0	28°8'55.5S	26°53'1.53E	Erven
3358	MELODING	6367	0	28°8'55.78S	26°53'1.88E	Erven
3359	MELODING	6382	0	28°8'59.88S	26°53'6.67E	Erven
3360	MELODING	5940	0	28°8'37.42S	26°53'11.13E	Erven
3361	MELODING	5941	0	28°8'37.73S	26°53'11.47E	Erven
3362	MELODING	4633	0	28°9'6.18S	26°53'28.15E	Erven
3363	MELODING	4634	0	28°9'5.95S	26°53'27.78E	Erven
3364	MELODING	14349	0	28°8'57.25S	26°52'33.01E	Erven
3365	MELODING	4107	0	28°8'53.33S	26°53'20.13E	Erven
3366	MELODING	4542	0	28°8'57.6S	26°53'27.48E	Erven
3367	MELODING	3512	0	28°8'45.15S	26°53'33.11E	Erven
3368	MELODING	3526	0	28°8'49.71S	26°53'50.32E	Erven
3369	MELODING	3533	0	28°8'51.93S	26°53'48.54E	Erven
3370	MELODING	2656	0	28°8'25.17S	26°53'17.83E	Erven
3371	MELODING	14702	0	28°9'0.17S	26°52'44.02E	Erven
3372	MELODING	14709	0	28°8'58.42S	26°52'45.92E	Erven
3373	MELODING	14716	0	28°8'57.67S	26°52'48.01E	Erven
3374	MELODING	15142	0	28°9'17.21S	26°53'9.56E	Erven
3375	MELODING	14277	0	28°8'54.91S	26°52'40.27E	Erven
3376	MELODING	14284	0	28°8'52.6S	26°52'42.81E	Erven
3377	MELODING	14950	0	28°9'5.93S	26°52'56.88E	Erven
3378	MELODING	14957	0	28°9'8.93S	26°52'58.6E	Erven
3379	MELODING	14964	0	28°9'10.06S	26°52'57.22E	Erven
3380	MELODING	5452	0	28°8'43.54S	26°53'21.14E	Erven
3381	MELODING	5879	0	28°8'33.73S	26°53'12.09E	Erven
3382	MELODING	5886	0	28°8'35.84S	26°53'13.53E	Erven
3383	MELODING	4554	0	28°9'2.64S	26°53'32.2E	Erven
3384	MELODING	4565	0	28°9'9.01S	26°53'34.87E	Erven
3385	MELODING	5460	0	28°8'45.78S	26°53'18.7E	Erven
3386	MELODING	4131	0	28°8'58.21S	26°53'18.01E	Erven
3387	MELODING	4138	0	28°8'48.24S	26°53'29.06E	Erven
3388	MELODING	3107	0	28°8'36.98S	26°53'36.32E	Erven

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3389	MELODING	3543	0	28°8'55.54S	26°53'45.65E	Erven
3390	MELODING	15145	0	28°9'16.22S	26°53'5.14E	Erven
3391	MELODING	15152	0	28°9'16.9S	26°53'8.14E	Erven
3392	MELODING	14300	0	28°8'58.23S	26°52'39.72E	Erven
3393	MELODING	14725	0	28°8'59.26S	26°52'52.27E	Erven
3394	MELODING	14526	0	28°9'3.92S	26°52'36.59E	Erven
3395	MELODING	12410	0	28°8'17.69S	26°53'13.42E	Erven
3396	MELODING	12827	0	28°9'6.99S	26°53'8.65E	Erven
3397	MELODING	12840	0	28°9'9.32S	26°53'9.79E	Erven
3398	MELODING	12842	0	28°9'9.86S	26°53'10.42E	Erven
3399	MELODING	6418	0	28°8'59.96S	26°53'4.12E	Erven
3400	MELODING	6420	0	28°9'0.5S	26°53'4.76E	Erven
3401	MELODING	6436	0	28°8'59.61S	26°53'2.66E	Erven
3402	MELODING	6438	0	28°8'59.06S	26°53'2.01E	Erven
3403	MELODING	14408	0	28°8'59.71S	26°52'28.94E	Erven
3404	MELODING	14410	0	28°9'0.72S	26°52'29.11E	Erven
3405	MELODING	14842	0	28°9'7.7S	26°52'47.76E	Erven
3406	MELODING	14844	0	28°9'7.07S	26°52'47.02E	Erven
3407	MELODING	12856	0	28°9'13.7S	26°53'15.02E	Erven
3408	MELODING	12858	0	28°9'14.14S	26°53'15.9E	Erven
3409	MELODING	14854	0	28°9'3.56S	26°52'49.64E	Erven
3410	MELODING	14856	0	28°9'2.9S	26°52'50.36E	Erven
3411	MELODING	14422	0	28°8'59.44S	26°52'31.12E	Erven
3412	MELODING	14424	0	28°9'0.38S	26°52'31.28E	Erven
3413	MELODING	14437	0	28°9'4.94S	26°52'33.1E	Erven
3414	MELODING	14439	0	28°9'4.3S	26°52'32.36E	Erven
3415	MELODING	14441	0	28°9'3.67S	26°52'31.62E	Erven
3416	MELODING	1713	0	28°8'19.4S	26°53'30.79E	Erven
3417	MELODING	1715	0	28°8'19.12S	26°53'29.96E	Erven
3418	MELODING	2130	0	28°8'19.64S	26°53'21.26E	Erven
3419	MELODING	1717	0	28°8'18.88S	26°53'29.13E	Erven
3420	MELODING	12873	0	28°9'11.14S	26°53'10.86E	Erven
3421	MELODING	5822	0	28°8'37.33S	26°53'14.34E	Erven
3422	MELODING	4495	0	28°8'59.73S	26°53'23.63E	Erven
3423	MELODING	4506	0	28°8'57.6S	26°53'24.94E	Erven
3424	MELODING	5401	0	28°8'52.05S	26°53'18.63E	Erven
3425	MELODING	5563	0	28°8'47.58S	26°53'20.8E	Erven
3426	MELODING	5993	0	28°8'45.02S	26°53'5.97E	Erven
3427	MELODING	6000	0	28°8'46.99S	26°53'3.8E	Erven
3428	MELODING	4682	0	28°9'2.31S	26°53'27.75E	Erven
3429	MELODING	4687	0	28°9'2.78S	26°53'33.7E	Erven
3430	MELODING	5570	0	28°8'45.62S	26°53'22.94E	Erven
3431	MELODING	3643	0	28°8'52.97S	26°53'40.97E	Erven
3432	MELODING	4233	0	28°8'50.41S	26°53'27.91E	Erven
3433	MELODING	4242	0	28°8'50.58S	26°53'26.52E	Erven
3434	MELODING	4250	0	28°8'52.74S	26°53'29.04E	Erven
3435	MELODING	3207	0	28°8'37.29S	26°53'40.81E	Erven
3436	MELODING	3214	0	28°8'39.52S	26°53'39.03E	Erven
3437	MELODING	3222	0	28°8'38.82S	26°53'38.69E	Erven
3438	MELODING	2774	0	28°8'28.75S	26°53'27.03E	Erven
3439	MELODING	2781	0	28°8'28.28S	26°53'24.05E	Erven
3440	MELODING	2788	0	28°8'30.01S	26°53'21.78E	Erven
3441	MELODING	1953	0	28°8'25.08S	26°53'29.37E	Erven
3442	MELODING	1963	0	28°8'26.9S	26°53'30.45E	Erven
3443	MELODING	2356	0	28°8'36.4S	26°53'52.89E	Erven
3444	MELODING	1597	0	28°8'19.83S	26°53'37.69E	Erven
3445	MELODING	12687	0	28°9'15.1S	26°53'19.64E	Erven
3446	MELODING	12694	0	28°9'17.87S	26°53'18.32E	Erven
3447	MELODING	14831	0	28°9'4.78S	26°52'49.6E	Erven
3448	MELODING	14838	0	28°9'7.43S	26°52'48.77E	Erven

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3449	MELODING	14840	0	28°9'8.36S	26°52'48.54E	Erven
3450	MELODING	14415	0	28°9'2.81S	26°52'28.51E	Erven
3451	MELODING	14420	0	28°9'0.35S	26°52'28.13E	Erven
3452	MELODING	14858	0	28°9'2.25S	26°52'51.07E	Erven
3453	MELODING	14860	0	28°9'1.6S	26°52'51.78E	Erven
3454	MELODING	14862	0	28°9'0.92S	26°52'52.54E	Erven
3455	MELODING	1701	0	28°8'20.85S	26°53'35.16E	Erven
3456	MELODING	1703	0	28°8'21.39S	26°53'34.5E	Erven
3457	MELODING	1709	0	28°8'19.93S	26°53'32.44E	Erven
3458	MELODING	1711	0	28°8'19.67S	26°53'31.62E	Erven
3459	MELODING	12869	0	28°9'12.31S	26°53'12.24E	Erven
3460	MELODING	12871	0	28°9'11.77S	26°53'11.6E	Erven
3461	MELODING	12447	0	28°8'25.84S	26°53'4.98E	Erven
3462	MELODING	12449	0	28°8'26.07S	26°53'4.32E	Erven
3463	MELODING	12456	0	28°8'27.86S	26°53'5.06E	Erven
3464	MELODING	12458	0	28°8'27.87S	26°53'4.13E	Erven
3465	MELODING	14864	0	28°9'3.36S	26°52'53.5E	Erven
3466	MELODING	14444	0	28°9'2.29S	26°52'30.64E	Erven
3467	MELODING	14446	0	28°9'1.39S	26°52'30.5E	Erven
3468	MELODING	2142	0	28°8'26.86S	26°53'59.81E	Erven
3469	MELODING	2144	0	28°8'27.16S	26°54'0.63E	Erven
3470	MELODING	2149	0	28°8'27.83S	26°54'2.69E	Erven
3471	MELODING	2545	0	28°8'34.58S	26°53'43.2E	Erven
3472	MELODING	14780	0	28°9'2.09S	26°52'44.98E	Erven
3473	MELODING	14781	0	28°9'1.77S	26°52'45.33E	Erven
3474	MELODING	14360	0	28°9'2.25S	26°52'34.44E	Erven
3475	MELODING	15015	0	28°9'16.29S	26°53'2.49E	Erven
3476	MELODING	15016	0	28°9'9.97S	26°53'3.31E	Erven
3477	MELODING	14158	0	28°8'55.61S	26°52'45.62E	Erven
3478	MELODING	14159	0	28°8'55.93S	26°52'45.27E	Erven
3479	MELODING	14595	0	28°9'5.93S	26°52'43.53E	Erven
3480	MELODING	14596	0	28°9'6.25S	26°52'43.9E	Erven
3481	MELODING	14601	0	28°9'7.87S	26°52'45.77E	Erven
3482	MELODING	14604	0	28°9'7.78S	26°52'44.36E	Erven
3483	MELODING	15037	0	28°9'13.93S	26°53'0.14E	Erven
3484	MELODING	15038	0	28°9'14.21S	26°52'59.83E	Erven
3485	MELODING	14180	0	28°8'56.5S	26°52'45.92E	Erven
3486	MELODING	14181	0	28°8'56.17S	26°52'46.28E	Erven
3487	MELODING	14615	0	28°9'8.53S	26°52'46.8E	Erven
3488	MELODING	14616	0	28°9'9.07S	26°52'47.19E	Erven
3489	MELODING	14633	0	28°9'10.16S	26°52'47.2E	Erven
3490	MELODING	14634	0	28°9'9.87S	26°52'46.51E	Erven
3491	MELODING	14190	0	28°8'53.8S	26°52'36.65E	Erven
3492	MELODING	14193	0	28°8'54.78S	26°52'35.58E	Erven
3493	MELODING	15062	0	28°9'14.12S	26°53'2.47E	Erven
3494	MELODING	15063	0	28°9'14.4S	26°53'2.1E	Erven
3495	MELODING	15077	0	28°9'12.26S	26°53'3.5E	Erven
3496	MELODING	15080	0	28°9'13.31S	26°53'5.9E	Erven
3497	MELODING	14637	0	28°9'11.08S	26°52'45.26E	Erven
3498	MELODING	14638	0	28°9'12.17S	26°52'42.83E	Erven
3499	MELODING	14660	0	28°9'13.9S	26°52'48.33E	Erven
3500	MELODING	14661	0	28°9'14.34S	26°52'47.77E	Erven
3501	MELODING	14664	0	28°9'12.54S	26°52'46.74E	Erven
3502	MELODING	14221	0	28°8'51.79S	26°52'41.87E	Erven
3503	MELODING	14222	0	28°8'52.16S	26°52'41.48E	Erven
3504	MELODING	14239	0	28°8'54.54S	26°52'37.61E	Erven
3505	MELODING	14240	0	28°8'54.22S	26°52'37.97E	Erven
3506	MELODING	15097	0	28°9'12.85S	26°53'5.38E	Erven
3507	MELODING	15098	0	28°9'12.58S	26°53'5.68E	Erven
3508	MELODING	14676	0	28°9'13.88S	26°52'51.51E	Erven

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3509	MELODING	14679	0	28°9'14.03S	26°52'49.91E	Erven
3510	MELODING	14680	0	28°9'14.6S	26°52'49.43E	Erven
3511	MELODING	15124	0	28°9'14.91S	26°53'10.67E	Erven
3512	MELODING	15125	0	28°9'15.17S	26°53'10.99E	Erven
3513	MELODING	14115	0	28°8'55.13S	26°52'32.7E	Erven
3514	MELODING	14117	0	28°8'56.26S	26°52'32.6E	Erven
3515	MELODING	14131	0	28°8'49.54S	26°52'40E	Erven
3516	MELODING	14554	0	28°9'11.87S	26°52'32.55E	Erven
3517	MELODING	14563	0	28°9'10.33S	26°52'32.96E	Erven
3518	MELODING	14564	0	28°9'10S	26°52'33.32E	Erven
3519	MELODING	14578	0	28°9'13.15S	26°52'38.79E	Erven
3520	MELODING	15000	0	28°9'14.76S	26°52'56.57E	Erven
3521	MELODING	14140	0	28°8'49.99S	26°52'40.7E	Erven
3522	MELODING	14141	0	28°8'49.66S	26°52'41.37E	Erven
3523	MELODING	5840	0	28°8'36.05S	26°53'14.72E	Erven
3524	MELODING	6274	0	28°8'44S	26°53'3.52E	Erven
3525	MELODING	6281	0	28°8'42.04S	26°53'5.66E	Erven
3526	MELODING	5413	0	28°8'50.69S	26°53'14.69E	Erven
3527	MELODING	5420	0	28°8'52.76S	26°53'16.09E	Erven
3528	MELODING	5427	0	28°8'55.04S	26°53'15.37E	Erven
3529	MELODING	6013	0	28°8'44.84S	26°53'5.14E	Erven
3530	MELODING	6451	0	28°8'59.22S	26°53'0.62E	Erven
3531	MELODING	6458	0	28°9'1.12S	26°53'2.85E	Erven
3532	MELODING	5584	0	28°8'47.65S	26°53'5.97E	Erven
3533	MELODING	6017	0	28°8'43.73S	26°53'6.36E	Erven
3534	MELODING	4691	0	28°9'3.92S	26°53'32.13E	Erven
3535	MELODING	4694	0	28°9'4.36S	26°53'36.21E	Erven
3536	MELODING	3656	0	28°8'48.74S	26°53'44.36E	Erven
3537	MELODING	3663	0	28°8'47.44S	26°53'47.66E	Erven
3538	MELODING	3670	0	28°8'49.73S	26°53'46.7E	Erven
3539	MELODING	2800	0	28°8'29.46S	26°53'24.99E	Erven
3540	MELODING	3228	0	28°8'36.91S	26°53'40.21E	Erven
3541	MELODING	3235	0	28°8'38.75S	26°53'41.89E	Erven
3542	MELODING	2366	0	28°8'32.99S	26°53'57.22E	Erven
3543	MELODING	2373	0	28°8'35.68S	26°53'57.89E	Erven
3544	MELODING	2805	0	28°8'30.93S	26°53'23.32E	Erven
3545	MELODING	1969	0	28°8'25.27S	26°53'28.55E	Erven
3546	MELODING	1985	0	28°8'21.69S	26°53'29.55E	Erven
3547	MELODING	12706	0	28°9'4.34S	26°53'12.46E	Erven
3548	MELODING	12710	0	28°9'3.16S	26°53'11.71E	Erven
3549	MELODING	14533	0	28°9'6.62S	26°52'37.01E	Erven
3550	MELODING	14540	0	28°9'9.17S	26°52'35.49E	Erven
3551	MELODING	5899	0	28°8'32.31S	26°53'9.37E	Erven
3552	MELODING	6332	0	28°8'55.71S	26°53'4.43E	Erven
3553	MELODING	6339	0	28°8'57.62S	26°53'6.67E	Erven
3554	MELODING	5471	0	28°8'49.14S	26°53'15.45E	Erven
3555	MELODING	5478	0	28°8'51.1S	26°53'17.98E	Erven
3556	MELODING	5905	0	28°8'33.82S	26°53'9.55E	Erven
3557	MELODING	4573	0	28°9'11.55S	26°53'32.83E	Erven
3558	MELODING	4580	0	28°9'12.74S	26°53'30.35E	Erven
3559	MELODING	4587	0	28°9'13.96S	26°53'31.03E	Erven
3560	MELODING	3557	0	28°8'59.75S	26°53'42.03E	Erven
3561	MELODING	4146	0	28°8'50.4S	26°53'31.59E	Erven
3562	MELODING	4153	0	28°8'52.29S	26°53'33.8E	Erven
3563	MELODING	14741	0	28°9'3.62S	26°52'57.34E	Erven
3564	MELODING	14310	0	28°8'54.96S	26°52'43.28E	Erven
3565	MELODING	14317	0	28°9'1S	26°52'36.47E	Erven
3566	MELODING	14328	0	28°8'59.96S	26°52'40.91E	Erven
3567	MELODING	14548	0	28°9'9.87S	26°52'34.71E	Erven
3568	MELODING	14972	0	28°9'10.71S	26°53'5.77E	Erven

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3569	MELODING	14981	0	28°9'9.25S	26°53'2.68E	Erven
3570	MELODING	14988	0	28°9'11.3S	26°53'0.45E	Erven
3571	MELODING	6348	0	28°8'59.46S	26°53'7.75E	Erven
3572	MELODING	5914	0	28°8'36.25S	26°53'12.4E	Erven
3573	MELODING	5921	0	28°8'35.64S	26°53'10.63E	Erven
3574	MELODING	5928	0	28°8'34.1S	26°53'8.03E	Erven
3575	MELODING	4606	0	28°9'3.32S	26°53'27.67E	Erven
3576	MELODING	5488	0	28°8'49.32S	26°53'14.7E	Erven
3577	MELODING	1736	0	28°8'26.28S	26°53'37.66E	Erven
3578	MELODING	1738	0	28°8'27.01S	26°53'37.35E	Erven
3579	MELODING	12895	0	28°9'14.42S	26°53'17.05E	Erven
3580	MELODING	12897	0	28°9'13.78S	26°53'17.56E	Erven
3581	MELODING	12902	0	28°9'12.15S	26°53'18.84E	Erven
3582	MELODING	14467	0	28°9'4.7S	26°52'29.73E	Erven
3583	MELODING	14469	0	28°9'4.65S	26°52'28.64E	Erven
3584	MELODING	14893	0	28°9'8.07S	26°52'52.67E	Erven
3585	MELODING	14895	0	28°9'8.69S	26°52'53.41E	Erven
3586	MELODING	2162	0	28°8'30.06S	26°54'6.06E	Erven
3587	MELODING	2164	0	28°8'30.7S	26°54'5.55E	Erven
3588	MELODING	1745	0	28°8'29.57S	26°53'36.3E	Erven
3589	MELODING	1752	0	28°8'30.1S	26°53'35.3E	Erven
3590	MELODING	1757	0	28°8'28.26S	26°53'36.07E	Erven
3591	MELODING	12903	0	28°9'11.71S	26°53'18.73E	Erven
3592	MELODING	12908	0	28°9'11.04S	26°53'20.74E	Erven
3593	MELODING	14907	0	28°9'7.06S	26°52'50.19E	Erven
3594	MELODING	14909	0	28°9'6.4S	26°52'49.42E	Erven
3595	MELODING	3006	0	28°8'40.9S	26°53'30.77E	Erven
3596	MELODING	3008	0	28°8'41.47S	26°53'30.16E	Erven
3597	MELODING	2591	0	28°8'23.93S	26°53'17.62E	Erven
3598	MELODING	2593	0	28°8'24.49S	26°53'17.01E	Erven
3599	MELODING	14494	0	28°9'5.81S	26°52'35.79E	Erven
3600	MELODING	14496	0	28°9'6.47S	26°52'35.07E	Erven
3601	MELODING	3465	0	28°8'46.24S	26°53'37.02E	Erven
3602	MELODING	3467	0	28°8'45.68S	26°53'36.36E	Erven
3603	MELODING	3474	0	28°8'43.7S	26°53'34.06E	Erven
3604	MELODING	3476	0	28°8'43.14S	26°53'33.39E	Erven
3605	MELODING	3040	0	28°8'36.1S	26°53'19.87E	Erven
3606	MELODING	3042	0	28°8'35.55S	26°53'19.24E	Erven
3607	MELODING	6299	0	28°8'55.4S	26°53'6.72E	Erven
3608	MELODING	5855	0	28°8'31.79S	26°53'11.4E	Erven
3609	MELODING	5867	0	28°8'29.99S	26°53'6.77E	Erven
3610	MELODING	6464	0	28°9'2.76S	26°53'4.76E	Erven
3611	MELODING	6027	0	28°8'40.92S	26°53'9.41E	Erven
3612	MELODING	6041	0	28°8'36.54S	26°53'6.35E	Erven
3613	MELODING	4700	0	28°9'5.35S	26°53'33.14E	Erven
3614	MELODING	5602	0	28°8'53.94S	26°53'8.8E	Erven
3615	MELODING	5609	0	28°8'54.39S	26°53'9.33E	Erven
3616	MELODING	4268	0	28°8'54.56S	26°53'30.12E	Erven
3617	MELODING	4280	0	28°8'51.31S	26°53'26.32E	Erven
3618	MELODING	3244	0	28°8'41.68S	26°53'39.54E	Erven
3619	MELODING	3675	0	28°8'51.33S	26°53'45.43E	Erven
3620	MELODING	3686	0	28°8'54.85S	26°53'42.66E	Erven
3621	MELODING	2812	0	28°8'32.89S	26°53'21.19E	Erven
3622	MELODING	2819	0	28°8'33S	26°53'20.06E	Erven
3623	MELODING	3251	0	28°8'39.32S	26°53'40.53E	Erven
3624	MELODING	1989	0	28°8'23.16S	26°53'28.95E	Erven
3625	MELODING	2387	0	28°8'40.02S	26°53'56.74E	Erven
3626	MELODING	2398	0	28°8'39.64S	26°53'56.14E	Erven
3627	MELODING	1610	0	28°8'22.87S	26°53'40.31E	Erven
3628	MELODING	4838	0	28°9'15.01S	26°53'29.53E	Erven

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3629	MELODING	5370	0	28°8'42.97S	26°53'25.33E	Erven
3630	MELODING	5369	0	28°8'42.71S	26°53'25.01E	Erven
3631	MELODING	4013	0	28°8'49.82S	26°53'33.32E	Erven
3632	MELODING	4012	0	28°8'49.54S	26°53'33.03E	Erven
3633	MELODING	4009	0	28°8'48.73S	26°53'32.05E	Erven
3634	MELODING	5360	0	28°8'40.18S	26°53'22.07E	Erven
3635	MELODING	5359	0	28°8'39.9S	26°53'21.73E	Erven
3636	MELODING	5814	0	28°8'35S	26°53'15.98E	Erven
3637	MELODING	5813	0	28°8'34.74S	26°53'15.67E	Erven
3638	MELODING	5804	0	28°8'32.2S	26°53'12.7E	Erven
3639	MELODING	5794	0	28°8'29.42S	26°53'9.41E	Erven
3640	MELODING	4030	0	28°8'55.71S	26°53'37.88E	Erven
3641	MELODING	4029	0	28°8'54.79S	26°53'37.87E	Erven
3642	MELODING	3432	0	28°8'43.62S	26°53'36.6E	Erven
3643	MELODING	4155	0	28°8'52.84S	26°53'34.44E	Erven
3644	MELODING	5516	0	28°8'47.68S	26°53'18.16E	Erven
3645	MELODING	2642	0	28°8'29.31S	26°53'14.41E	Erven
3646	MELODING	2752	0	28°8'29.84S	26°53'20.95E	Erven
3647	MELODING	5777	0	28°8'55.93S	26°53'11.74E	Erven
3648	MELODING	5431	0	28°8'56.16S	26°53'14.15E	Erven
3649	MELODING	4675	0	28°9'5.84S	26°53'23.9E	Erven
3650	MELODING	2672	0	28°8'28.91S	26°53'16.45E	Erven
3651	MELODING	3220	0	28°8'39.46S	26°53'38.18E	Erven
3652	MELODING	12968	0	28°9'17.85S	26°53'26.43E	Erven
3653	MELODING	2407	0	28°8'37.79S	26°53'56.28E	Erven
3654	MELODING	3407	0	28°8'42.32S	26°53'36.14E	Erven
3655	MELODING	3414	0	28°8'44.25S	26°53'38.39E	Erven
3656	MELODING	3417	0	28°8'45.08S	26°53'39.36E	Erven
3657	MELODING	2977	0	28°8'33.66S	26°53'35.01E	Erven
3658	MELODING	2979	0	28°8'33.39S	26°53'34.19E	Erven
3659	MELODING	3573	0	28°8'48.84S	26°53'42.93E	Erven
3660	MELODING	3576	0	28°8'49.8S	26°53'42.17E	Erven
3661	MELODING	2716	0	28°8'28.58S	26°53'12.14E	Erven
3662	MELODING	3139	0	28°8'46.54S	26°53'33.15E	Erven
3663	MELODING	3146	0	28°8'48.44S	26°53'35.36E	Erven
3664	MELODING	3148	0	28°8'48.97S	26°53'36E	Erven
3665	MELODING	2292	0	28°8'38.54S	26°53'59.39E	Erven
3666	MELODING	2718	0	28°8'29.13S	26°53'12.78E	Erven
3667	MELODING	1882	0	28°8'25.81S	26°53'24.37E	Erven
3668	MELODING	1884	0	28°8'25.8S	26°53'25.25E	Erven
3669	MELODING	13076	0	28°9'13.07S	26°53'22.62E	Erven
3670	MELODING	12616	0	28°9'2.6S	26°53'10.22E	Erven
3671	MELODING	12623	0	28°9'4.61S	26°53'7.85E	Erven
3672	MELODING	12625	0	28°9'5.18S	26°53'7.24E	Erven
3673	MELODING	5763	0	28°8'52.46S	26°53'12.96E	Erven
3674	MELODING	5765	0	28°8'53.01S	26°53'14.93E	Erven
3675	MELODING	4445	0	28°8'58.32S	26°53'22.62E	Erven
3676	MELODING	4450	0	28°9'0.18S	26°53'21.36E	Erven
3677	MELODING	12875	0	28°9'10.59S	26°53'10.23E	Erven
3678	MELODING	12445	0	28°8'25.49S	26°53'2.67E	Erven
3679	MELODING	12460	0	28°8'27.87S	26°53'3.25E	Erven
3680	MELODING	12462	0	28°8'27.93S	26°53'2.19E	Erven
3681	MELODING	14866	0	28°9'4.77S	26°52'53.76E	Erven
3682	MELODING	14868	0	28°9'3.95S	26°52'52.87E	Erven
3683	MELODING	14870	0	28°9'4.43S	26°52'51.57E	Erven
3684	MELODING	14883	0	28°9'5.66S	26°52'51.71E	Erven
3685	MELODING	14885	0	28°9'5S	26°52'50.95E	Erven
3686	MELODING	14448	0	28°9'0.49S	26°52'30.36E	Erven
3687	MELODING	14450	0	28°8'59.55S	26°52'30.24E	Erven
3688	MELODING	2547	0	28°8'34.31S	26°53'42.38E	Erven

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3689	MELODING	2550	0	28°8'30.98S	26°53'39.56E	Erven
3690	MELODING	1732	0	28°8'24.81S	26°53'38.27E	Erven
3691	MELODING	1734	0	28°8'25.55S	26°53'37.96E	Erven
3692	MELODING	12890	0	28°9'6.89S	26°53'20.87E	Erven
3693	MELODING	12893	0	28°9'15.05S	26°53'16.53E	Erven
3694	MELODING	14463	0	28°9'6.03S	26°52'31.2E	Erven
3695	MELODING	14465	0	28°9'5.4S	26°52'30.47E	Erven
3696	MELODING	14897	0	28°9'10.09S	26°52'54.03E	Erven
3697	MELODING	14899	0	28°9'9.59S	26°52'53.14E	Erven
3698	MELODING	2555	0	28°8'31.64S	26°53'41.91E	Erven
3699	MELODING	2557	0	28°8'32.4S	26°53'41.62E	Erven
3700	MELODING	2166	0	28°8'31.33S	26°54'5.05E	Erven
3701	MELODING	14911	0	28°9'8.81S	26°52'50.37E	Erven
3702	MELODING	14913	0	28°9'9.44S	26°52'51.11E	Erven
3703	MELODING	3010	0	28°8'42.02S	26°53'29.55E	Erven
3704	MELODING	3012	0	28°8'42.59S	26°53'28.94E	Erven
3705	MELODING	5495	0	28°8'44.95S	26°53'22.15E	Erven
3706	MELODING	4160	0	28°8'54.42S	26°53'35.87E	Erven
3707	MELODING	4167	0	28°8'53.58S	26°53'34.25E	Erven
3708	MELODING	4610	0	28°9'5.2S	26°53'27.85E	Erven
3709	MELODING	14760	0	28°9'10.37S	26°52'58.69E	Erven
3710	MELODING	14767	0	28°8'59.39S	26°52'49.2E	Erven
3711	MELODING	14774	0	28°9'1.68S	26°52'46.71E	Erven
3712	MELODING	14337	0	28°9'3.21S	26°52'38.66E	Erven
3713	MELODING	14344	0	28°9'1.58S	26°52'35.83E	Erven
3714	MELODING	14991	0	28°9'12.15S	26°52'59.53E	Erven
3715	MELODING	6361	0	28°8'55.9S	26°53'3.6E	Erven
3716	MELODING	6368	0	28°8'56.06S	26°53'2.2E	Erven
3717	MELODING	6380	0	28°8'59.33S	26°53'6.04E	Erven
3718	MELODING	5503	0	28°8'47.28S	26°53'19.61E	Erven
3719	MELODING	5935	0	28°8'36.07S	26°53'9.54E	Erven
3720	MELODING	5939	0	28°8'37.15S	26°53'10.81E	Erven
3721	MELODING	5947	0	28°8'36.81S	26°53'9.36E	Erven
3722	MELODING	4625	0	28°9'7.98S	26°53'31.02E	Erven
3723	MELODING	4635	0	28°9'5.73S	26°53'27.42E	Erven
3724	MELODING	5514	0	28°8'48.24S	26°53'17.55E	Erven
3725	MELODING	14351	0	28°8'58.19S	26°52'33.16E	Erven
3726	MELODING	14779	0	28°9'2.46S	26°52'44.6E	Erven
3727	MELODING	14786	0	28°9'0.14S	26°52'47.11E	Erven
3728	MELODING	14358	0	28°9'1.5S	26°52'33.64E	Erven
3729	MELODING	15010	0	28°9'15.92S	26°53'0.26E	Erven
3730	MELODING	15017	0	28°9'10.26S	26°53'3.67E	Erven
3731	MELODING	14157	0	28°8'55.28S	26°52'45.98E	Erven
3732	MELODING	14583	0	28°9'11.64S	26°52'35.82E	Erven
3733	MELODING	1778	0	28°8'24.63S	26°53'36.38E	Erven
3734	MELODING	1780	0	28°8'25.36S	26°53'36.09E	Erven
3735	MELODING	1785	0	28°8'27.19S	26°53'35.33E	Erven
3736	MELODING	1787	0	28°8'27.93S	26°53'35.03E	Erven
3737	MELODING	1792	0	28°8'29.76S	26°53'34.18E	Erven
3738	MELODING	14921	0	28°9'12.56S	26°52'53.46E	Erven
3739	MELODING	14923	0	28°9'11.92S	26°52'52.69E	Erven
3740	MELODING	4060	0	28°8'53.02S	26°53'36.23E	Erven
3741	MELODING	4062	0	28°8'52.47S	26°53'35.6E	Erven
3742	MELODING	3479	0	28°8'43.84S	26°53'32.64E	Erven
3743	MELODING	3481	0	28°8'44.4S	26°53'33.29E	Erven
3744	MELODING	3488	0	28°8'46.38S	26°53'35.6E	Erven
3745	MELODING	3490	0	28°8'46.94S	26°53'36.26E	Erven
3746	MELODING	3054	0	28°8'35.63S	26°53'20.38E	Erven
3747	MELODING	3056	0	28°8'36.17S	26°53'21.01E	Erven
3748	MELODING	2215	0	28°8'31.7S	26°53'59.33E	Erven

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3749	MELODING	2217	0	28°8'30.94S	26°53'59.13E	Erven
3750	MELODING	14247	0	28°8'51.92S	26°52'40.47E	Erven
3751	MELODING	14249	0	28°8'51.24S	26°52'41.22E	Erven
3752	MELODING	14254	0	28°8'54.49S	26°52'42E	Erven
3753	MELODING	14256	0	28°8'55.14S	26°52'41.29E	Erven
3754	MELODING	4535	0	28°8'59.57S	26°53'25.34E	Erven
3755	MELODING	3497	0	28°8'48.99S	26°53'38.11E	Erven
3756	MELODING	3505	0	28°8'47.12S	26°53'35.42E	Erven
3757	MELODING	4088	0	28°8'47.91S	26°53'26.04E	Erven
3758	MELODING	3070	0	28°8'39.96S	26°53'25.45E	Erven
3759	MELODING	3073	0	28°8'40.86S	26°53'26.5E	Erven
3760	MELODING	3078	0	28°8'42.21S	26°53'28.08E	Erven
3761	MELODING	3507	0	28°8'46.57S	26°53'34.76E	Erven
3762	MELODING	3509	0	28°8'46S	26°53'34.1E	Erven
3763	MELODING	14166	0	28°8'58.23S	26°52'42.77E	Erven
3764	MELODING	6387	0	28°9'0.89S	26°53'6.8E	Erven
3765	MELODING	4741	0	28°9'6.69S	26°53'35.38E	Erven
3766	MELODING	4548	0	28°9'1.34S	26°53'29.88E	Erven
3767	MELODING	4547	0	28°9'1.05S	26°53'29.55E	Erven
3768	MELODING	12500	0	28°8'16.11S	26°53'16.67E	Erven
3769	MELODING	12499	0	28°8'16.41S	26°53'16.33E	Erven
3770	MELODING	12559	0	28°8'17.77S	26°53'21.09E	Erven
3771	MELODING	12598	0	28°8'18.19S	26°53'19.8E	Erven
3772	MELODING	5332	0	28°8'39.82S	26°53'20.57E	Erven
3773	MELODING	5389	0	28°8'48.64S	26°53'22.21E	Erven
3774	MELODING	5388	0	28°8'48.35S	26°53'22.52E	Erven
3775	MELODING	4077	0	28°8'48.39S	26°53'30.53E	Erven
3776	MELODING	4074	0	28°8'49.2S	26°53'31.48E	Erven
3777	MELODING	6614	0	28°8'24.14S	26°53'56.93E	Erven
3778	MELODING	6611	0	28°8'23.41S	26°53'54.94E	Erven
3779	MELODING	6790	0	28°8'55.12S	26°52'58.72E	Erven
3780	MELODING	6787	0	28°8'56.5S	26°52'59.09E	Erven
3781	MELODING	6786	0	28°8'55.77S	26°52'59.51E	Erven
3782	MELODING	6704	0	28°8'50.77S	26°52'58.52E	Erven
3783	MELODING	6703	0	28°8'51.06S	26°52'59.03E	Erven
3784	MELODING	6686	0	28°8'48.45S	26°52'57.45E	Erven
3785	MELODING	6685	0	28°8'47.9S	26°52'57.4E	Erven
3786	MELODING	6774	0	28°8'37.93S	26°53'1.25E	Erven
3787	MELODING	6773	0	28°8'38.37S	26°53'0.8E	Erven
3788	MELODING	6760	0	28°8'40.58S	26°52'59.86E	Erven
3789	MELODING	6759	0	28°8'40.22S	26°53'0.28E	Erven
3790	MELODING	6742	0	28°8'36.98S	26°52'58.6E	Erven
3791	MELODING	6741	0	28°8'37.37S	26°52'58.19E	Erven
3792	MELODING	6724	0	28°8'35.25S	26°53'2E	Erven
3793	MELODING	6723	0	28°8'34.69S	26°53'2.66E	Erven
3794	MELODING	6922	0	28°8'56.24S	26°52'52.03E	Erven
3795	MELODING	6921	0	28°8'55.93S	26°52'51.56E	Erven
3796	MELODING	6918	0	28°8'54.81S	26°52'50.13E	Erven
3797	MELODING	6904	0	28°8'48.84S	26°52'43.33E	Erven
3798	MELODING	6903	0	28°8'48.19S	26°52'43.16E	Erven
3799	MELODING	6885	0	28°8'52.62S	26°52'49.87E	Erven
3800	MELODING	6884	0	28°8'52.97S	26°52'50.31E	Erven
3801	MELODING	6870	0	28°8'50.74S	26°52'49.31E	Erven
3802	MELODING	6867	0	28°8'49.61S	26°52'47.93E	Erven
3803	MELODING	6853	0	28°8'49.78S	26°52'50.4E	Erven
3804	MELODING	6852	0	28°8'50.15S	26°52'50.83E	Erven
3805	MELODING	6835	0	28°8'46.16S	26°52'49.98E	Erven
3806	MELODING	6834	0	28°8'46.47S	26°52'50.47E	Erven
3807	MELODING	6820	0	28°8'43.05S	26°52'51.65E	Erven
3808	MELODING	6817	0	28°8'41.32S	26°52'49.18E	Erven

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3809	MELODING	6803	0	28°8'44.38S	26°52'47.34E	Erven
3810	MELODING	6802	0	28°8'43.96S	26°52'47.75E	Erven
3811	MELODING	2159	0	28°8'29.24S	26°54'6.81E	Erven
3812	MELODING	3805	0	28°8'33.01S	26°54'3.75E	Erven
3813	MELODING	14590	0	28°9'12.09S	26°52'39.46E	Erven
3814	MELODING	14606	0	28°9'7.15S	26°52'43.63E	Erven
3815	MELODING	15036	0	28°9'13.65S	26°53'0.44E	Erven
3816	MELODING	15044	0	28°9'13.76S	26°52'59.31E	Erven
3817	MELODING	14175	0	28°8'58.14S	26°52'44.14E	Erven
3818	MELODING	14186	0	28°8'52.49S	26°52'38.07E	Erven
3819	MELODING	14613	0	28°9'9.2S	26°52'46.05E	Erven
3820	MELODING	15046	0	28°9'13.2S	26°52'59.92E	Erven
3821	MELODING	15053	0	28°9'11.23S	26°53'2.05E	Erven
3822	MELODING	14621	0	28°9'10.65S	26°52'49.04E	Erven
3823	MELODING	14628	0	28°9'11.86S	26°52'49.14E	Erven
3824	MELODING	14635	0	28°9'10.42S	26°52'46E	Erven
3825	MELODING	15058	0	28°9'13S	26°53'3.69E	Erven
3826	MELODING	14195	0	28°8'55.93S	26°52'35.26E	Erven
3827	MELODING	14207	0	28°8'56.48S	26°52'34.42E	Erven
3828	MELODING	15064	0	28°9'14.82S	26°53'2E	Erven
3829	MELODING	15075	0	28°9'12.83S	26°53'2.86E	Erven
3830	MELODING	15082	0	28°9'13.87S	26°53'5.29E	Erven
3831	MELODING	14213	0	28°8'53.89S	26°52'35.27E	Erven
3832	MELODING	14643	0	28°9'12.08S	26°52'44.19E	Erven
3833	MELODING	14650	0	28°9'13.96S	26°52'45.28E	Erven
3834	MELODING	14219	0	28°8'51.92S	26°52'37.41E	Erven
3835	MELODING	14659	0	28°9'13.57S	26°52'48.68E	Erven
3836	MELODING	15085	0	28°9'14.71S	26°53'4.37E	Erven
3837	MELODING	15092	0	28°9'14.26S	26°53'3.85E	Erven
3838	MELODING	14227	0	28°8'53.79S	26°52'39.7E	Erven
3839	MELODING	14234	0	28°8'56.08S	26°52'37.21E	Erven
3840	MELODING	14241	0	28°8'53.89S	26°52'38.33E	Erven
3841	MELODING	12721	0	28°9'4.99S	26°53'10.11E	Erven
3842	MELODING	12728	0	28°9'3.98S	26°53'10.2E	Erven
3843	MELODING	6305	0	28°8'57.03S	26°53'8.62E	Erven
3844	MELODING	6312	0	28°8'57.5S	26°53'8.12E	Erven
3845	MELODING	6319	0	28°8'55.6S	26°53'5.9E	Erven
3846	MELODING	6323	0	28°8'54.52S	26°53'4.63E	Erven
3847	MELODING	12911	0	28°9'11.57S	26°53'21.76E	Erven
3848	MELODING	12919	0	28°9'12.04S	26°53'19.45E	Erven
3849	MELODING	12926	0	28°9'14.47S	26°53'17.9E	Erven
3850	MELODING	12041	0	28°8'22.32S	26°53'42.65E	Erven
3851	MELODING	12473	0	28°8'18.81S	26°53'14.89E	Erven
3852	MELODING	12480	0	28°8'20.78S	26°53'12.76E	Erven
3853	MELODING	6481	0	28°8'59.41S	26°52'59.79E	Erven
3854	MELODING	6489	0	28°8'59.84S	26°52'58.7E	Erven
3855	MELODING	6496	0	28°9'1.75S	26°53'0.94E	Erven
3856	MELODING	5620	0	28°8'51.33S	26°53'4.81E	Erven
3857	MELODING	6049	0	28°8'33.27S	26°53'6.18E	Erven
3858	MELODING	6056	0	28°8'29.85S	26°53'4.97E	Erven
3859	MELODING	4712	0	28°9'4.1S	26°53'29.26E	Erven
3860	MELODING	4721	0	28°9'6.13S	26°53'32.5E	Erven
3861	MELODING	3698	0	28°8'51.91S	26°53'44.07E	Erven
3862	MELODING	4291	0	28°8'52.64S	26°53'23.55E	Erven
3863	MELODING	4299	0	28°8'54.89S	26°53'21.11E	Erven
3864	MELODING	3263	0	28°8'39.26S	26°53'43.73E	Erven
3865	MELODING	3274	0	28°8'42.82S	26°53'40.88E	Erven
3866	MELODING	3706	0	28°8'49.36S	26°53'46.1E	Erven
3867	MELODING	2832	0	28°8'29.35S	26°53'24.03E	Erven
3868	MELODING	14257	0	28°8'55.47S	26°52'40.93E	Erven

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3869	MELODING	14259	0	28°8'56.13S	26°52'40.22E	Erven
3870	MELODING	14261	0	28°8'56.79S	26°52'39.5E	Erven
3871	MELODING	14266	0	28°8'58.39S	26°52'37.37E	Erven
3872	MELODING	14268	0	28°8'57.67S	26°52'36.68E	Erven
3873	MELODING	14510	0	28°9'11.15S	26°52'29.95E	Erven
3874	MELODING	14512	0	28°9'8.53S	26°52'31.52E	Erven
3875	MELODING	5439	0	28°8'56.06S	26°53'9.22E	Erven
3876	MELODING	5441	0	28°8'55.45S	26°53'9.89E	Erven
3877	MELODING	4106	0	28°8'53.05S	26°53'20.43E	Erven
3878	MELODING	4108	0	28°8'53.61S	26°53'19.83E	Erven
3879	MELODING	3525	0	28°8'49.39S	26°53'50.58E	Erven
3880	MELODING	3527	0	28°8'50.02S	26°53'50.07E	Erven
3881	MELODING	3532	0	28°8'51.61S	26°53'48.79E	Erven
3882	MELODING	4116	0	28°8'55.95S	26°53'17.28E	Erven
3883	MELODING	14715	0	28°8'58S	26°52'47.65E	Erven
3884	MELODING	14717	0	28°8'56.61S	26°52'48.54E	Erven
3885	MELODING	15143	0	28°9'16.52S	26°53'4.37E	Erven
3886	MELODING	14292	0	28°8'56.83S	26°52'42.51E	Erven
3887	MELODING	5878	0	28°8'33.47S	26°53'11.78E	Erven
3888	MELODING	5880	0	28°8'34S	26°53'12.41E	Erven
3889	MELODING	5887	0	28°8'35.55S	26°53'13.17E	Erven
3890	MELODING	5889	0	28°8'35.01S	26°53'12.53E	Erven
3891	MELODING	5461	0	28°8'46.16S	26°53'18.28E	Erven
3892	MELODING	5464	0	28°8'47S	26°53'17.37E	Erven
3893	MELODING	4121	0	28°8'57.19S	26°53'17.89E	Erven
3894	MELODING	4127	0	28°8'58.87S	26°53'19.32E	Erven
3895	MELODING	3540	0	28°8'54.59S	26°53'46.42E	Erven
3896	MELODING	3542	0	28°8'55.22S	26°53'45.91E	Erven
3897	MELODING	3544	0	28°8'55.86S	26°53'45.4E	Erven
3898	MELODING	3804	0	28°8'32.68S	26°54'3.96E	Erven
3899	MELODING	2230	0	28°8'29.39S	26°54'0.44E	Erven
3900	MELODING	2229	0	28°8'29.79S	26°54'0.55E	Erven
3901	MELODING	2384	0	28°8'39.15S	26°53'57.46E	Erven
3902	MELODING	2400	0	28°8'39.09S	26°53'56.61E	Erven
3903	MELODING	3517	0	28°8'41.25S	26°53'50E	Erven
3904	MELODING	3518	0	28°8'44.3S	26°53'50.93E	Erven
3905	MELODING	2319	0	28°8'39.69S	26°53'50.36E	Erven
3906	MELODING	2318	0	28°8'39.98S	26°53'50.94E	Erven
3907	MELODING	3098	0	28°8'35.6S	26°53'40.67E	Erven
3908	MELODING	3095	0	28°8'35.95S	26°53'41.9E	Erven
3909	MELODING	3081	0	28°8'38.64S	26°53'47.58E	Erven
3910	MELODING	3080	0	28°8'38.84S	26°53'47.88E	Erven
3911	MELODING	2569	0	28°8'35.7S	26°53'43.01E	Erven
3912	MELODING	2568	0	28°8'35.55S	26°53'42.6E	Erven
3913	MELODING	12160	0	28°8'30.35S	26°53'41.48E	Erven
3914	MELODING	12157	0	28°8'30.83S	26°53'43.02E	Erven
3915	MELODING	12156	0	28°8'31S	26°53'43.51E	Erven
3916	MELODING	12070	0	28°8'25.35S	26°53'54.53E	Erven
3917	MELODING	12068	0	28°8'25.09S	26°53'53.68E	Erven
3918	MELODING	12051	0	28°8'22.75S	26°53'46.53E	Erven
3919	MELODING	12050	0	28°8'22.6S	26°53'46.07E	Erven
3920	MELODING	11803	0	28°8'20.92S	26°53'46.75E	Erven
3921	MELODING	11800	0	28°8'20.53S	26°53'45.51E	Erven
3922	MELODING	11799	0	28°8'20.4S	26°53'45.06E	Erven
3923	MELODING	5827	0	28°8'38.76S	26°53'12.66E	Erven
3924	MELODING	5826	0	28°8'38.47S	26°53'12.98E	Erven
3925	MELODING	6030	0	28°8'39.61S	26°53'9.69E	Erven
3926	MELODING	2843	0	28°8'32.06S	26°53'24.65E	Erven
3927	MELODING	2850	0	28°8'34.02S	26°53'22.51E	Erven
3928	MELODING	2009	0	28°8'19.88S	26°53'27.49E	Erven

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3929	MELODING	1619	0	28°8'26.17S	26°53'38.95E	Erven
3930	MELODING	12740	0	28°9'6.85S	26°53'12.51E	Erven
3931	MELODING	12742	0	28°9'7.52S	26°53'12.96E	Erven
3932	MELODING	12488	0	28°8'19.45S	26°53'13.11E	Erven
3933	MELODING	12941	0	28°9'13.14S	26°53'26.16E	Erven
3934	MELODING	12948	0	28°9'14.72S	26°53'28.67E	Erven
3935	MELODING	6065	0	28°8'33.39S	26°53'4.96E	Erven
3936	MELODING	6499	0	28°9'2.57S	26°53'1.89E	Erven
3937	MELODING	6506	0	28°9'4.69S	26°53'3.34E	Erven
3938	MELODING	5622	0	28°8'50.54S	26°53'4.79E	Erven
3939	MELODING	5631	0	28°8'46.91S	26°53'5.74E	Erven
3940	MELODING	5641	0	28°8'46.81S	26°53'10.18E	Erven
3941	MELODING	4302	0	28°8'55.73S	26°53'20.19E	Erven
3942	MELODING	4311	0	28°8'55.27S	26°53'19.67E	Erven
3943	MELODING	4728	0	28°9'6.21S	26°53'31.35E	Erven
3944	MELODING	3711	0	28°8'47.77S	26°53'47.38E	Erven
3945	MELODING	3722	0	28°8'51.63S	26°53'47.43E	Erven
3946	MELODING	3729	0	28°8'53.85S	26°53'45.65E	Erven
3947	MELODING	2853	0	28°8'34.86S	26°53'21.59E	Erven
3948	MELODING	3285	0	28°8'39.19S	26°53'42.88E	Erven
3949	MELODING	3292	0	28°8'39.06S	26°53'46.14E	Erven
3950	MELODING	2416	0	28°8'40.67S	26°53'53.96E	Erven
3951	MELODING	2430	0	28°8'34.87S	26°53'56.66E	Erven
3952	MELODING	2863	0	28°8'32.44S	26°53'23.21E	Erven
3953	MELODING	2018	0	28°8'19.6S	26°53'25.61E	Erven
3954	MELODING	2030	0	28°8'20.96S	26°53'26.15E	Erven
3955	MELODING	12758	0	28°9'11.88S	26°53'17.19E	Erven
3956	MELODING	12765	0	28°9'9.97S	26°53'14.78E	Erven
3957	MELODING	12951	0	28°9'16.25S	26°53'29.06E	Erven
3958	MELODING	12962	0	28°9'15.94S	26°53'27.96E	Erven
3959	MELODING	12503	0	28°8'14.21S	26°53'18.73E	Erven
3960	MELODING	6511	0	28°9'3.3S	26°53'1.7E	Erven
3961	MELODING	6518	0	28°9'1.4S	26°52'59.47E	Erven
3962	MELODING	6525	0	28°8'59.46S	26°52'57.23E	Erven
3963	MELODING	6076	0	28°8'29.99S	26°53'3.51E	Erven
3964	MELODING	6083	0	28°8'31.41S	26°53'0.95E	Erven
3965	MELODING	6090	0	28°8'29.34S	26°53'2.06E	Erven
3966	MELODING	4744	0	28°9'7.64S	26°53'34.61E	Erven
3967	MELODING	5657	0	28°8'47.55S	26°53'9.99E	Erven
3968	MELODING	4318	0	28°8'53.32S	26°53'21.81E	Erven
3969	MELODING	4330	0	28°8'53.21S	26°53'25.48E	Erven
3970	MELODING	4337	0	28°8'55.17S	26°53'23.35E	Erven
3971	MELODING	3300	0	28°8'41.62S	26°53'44.09E	Erven
3972	MELODING	3736	0	28°8'56.08S	26°53'43.85E	Erven
3973	MELODING	3743	0	28°8'55.87S	26°53'42.65E	Erven
3974	MELODING	2868	0	28°8'31.04S	26°53'24.73E	Erven
3975	MELODING	2880	0	28°8'37.76S	26°53'24.45E	Erven
3976	MELODING	3452	0	28°8'45.77S	26°53'37.53E	Erven
3977	MELODING	2595	0	28°8'25.03S	26°53'16.42E	Erven
3978	MELODING	1758	0	28°8'27.9S	26°53'36.21E	Erven
3979	MELODING	14474	0	28°9'5.7S	26°52'27.64E	Erven
3980	MELODING	14490	0	28°9'4.47S	26°52'37.24E	Erven
3981	MELODING	14492	0	28°9'5.16S	26°52'36.5E	Erven
3982	MELODING	3461	0	28°8'47.36S	26°53'38.34E	Erven
3983	MELODING	3463	0	28°8'46.8S	26°53'37.68E	Erven
3984	MELODING	4059	0	28°8'53.39S	26°53'36.6E	Erven
3985	MELODING	2599	0	28°8'26.14S	26°53'15.21E	Erven
3986	MELODING	3036	0	28°8'37.17S	26°53'21.14E	Erven
3987	MELODING	3038	0	28°8'36.64S	26°53'20.5E	Erven
3988	MELODING	1774	0	28°8'23.17S	26°53'37E	Erven

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3989	MELODING	1776	0	28°8'23.89S	26°53'36.69E	Erven
3990	MELODING	1794	0	28°8'29.48S	26°53'33.26E	Erven
3991	MELODING	14925	0	28°9'11.29S	26°52'51.96E	Erven
3992	MELODING	14927	0	28°9'10.66S	26°52'51.22E	Erven
3993	MELODING	4064	0	28°8'51.93S	26°53'34.96E	Erven
3994	MELODING	4066	0	28°8'51.39S	26°53'34.34E	Erven
3995	MELODING	3049	0	28°8'34.28S	26°53'18.8E	Erven
3996	MELODING	3051	0	28°8'34.81S	26°53'19.42E	Erven
3997	MELODING	3492	0	28°8'47.5S	26°53'36.92E	Erven
3998	MELODING	3494	0	28°8'48.07S	26°53'37.58E	Erven
3999	MELODING	2624	0	28°8'22.92S	26°53'17.69E	Erven
4000	MELODING	2629	0	28°8'25.65S	26°53'18.39E	Erven
4001	MELODING	2219	0	28°8'30.18S	26°53'58.94E	Erven
4002	MELODING	2225	0	28°8'28.07S	26°54'0.28E	Erven
4003	MELODING	14498	0	28°9'7.13S	26°52'34.36E	Erven
4004	MELODING	14500	0	28°9'7.78S	26°52'33.65E	Erven
4005	MELODING	4512	0	28°8'55.91S	26°53'26.76E	Erven
4006	MELODING	15103	0	28°9'13.65S	26°53'7.37E	Erven
4007	MELODING	15110	0	28°9'15.71S	26°53'6.38E	Erven
4008	MELODING	14667	0	28°9'12.63S	26°52'45.37E	Erven
4009	MELODING	14674	0	28°9'13.3S	26°52'52.14E	Erven
4010	MELODING	14681	0	28°9'0.04S	26°52'45.42E	Erven
4011	MELODING	15112	0	28°9'15.19S	26°53'6.82E	Erven
4012	MELODING	15123	0	28°9'14.63S	26°53'10.35E	Erven
4013	MELODING	15130	0	28°9'17.32S	26°53'13.57E	Erven
4014	MELODING	14106	0	28°8'51.34S	26°52'35.96E	Erven
4015	MELODING	14113	0	28°8'54.1S	26°52'32.95E	Erven
4016	MELODING	14118	0	28°8'56.26S	26°52'31.89E	Erven
4017	MELODING	14122	0	28°8'56.5S	26°52'29.86E	Erven
4018	MELODING	14129	0	28°8'48.89S	26°52'40.75E	Erven
4019	MELODING	14556	0	28°9'12.48S	26°52'31.74E	Erven
4020	MELODING	14565	0	28°9'9.67S	26°52'33.67E	Erven
4021	MELODING	14576	0	28°9'13.03S	26°52'37.77E	Erven
4022	MELODING	15002	0	28°9'15.52S	26°52'56.67E	Erven
4023	MELODING	14135	0	28°8'50.88S	26°52'38.57E	Erven
4024	MELODING	14146	0	28°8'51.55S	26°52'43.4E	Erven
4025	MELODING	14153	0	28°8'53.78S	26°52'45.96E	Erven
4026	MELODING	4833	0	28°9'13.33S	26°53'27.53E	Erven
4027	MELODING	4826	0	28°9'11.75S	26°53'25.01E	Erven
4028	MELODING	5365	0	28°8'41.53S	26°53'23.61E	Erven
4029	MELODING	4014	0	28°8'50.08S	26°53'33.65E	Erven
4030	MELODING	4007	0	28°8'48.17S	26°53'31.45E	Erven
4031	MELODING	5358	0	28°8'39.63S	26°53'21.42E	Erven
4032	MELODING	5808	0	28°8'33.38S	26°53'14.11E	Erven
4033	MELODING	15144	0	28°9'15.92S	26°53'4.77E	Erven
4034	MELODING	15146	0	28°9'16.52S	26°53'5.46E	Erven
4035	MELODING	14298	0	28°8'58.8S	26°52'40.38E	Erven
4036	MELODING	14301	0	28°8'57.9S	26°52'40.07E	Erven
4037	MELODING	14726	0	28°8'59.57S	26°52'52.64E	Erven
4038	MELODING	14728	0	28°9'0.3S	26°52'53.48E	Erven
4039	MELODING	14302	0	28°8'57.57S	26°52'40.43E	Erven
4040	MELODING	14304	0	28°8'56.92S	26°52'41.14E	Erven
4041	MELODING	14103	0	28°8'50.36S	26°52'37.02E	Erven
4042	MELODING	14105	0	28°8'51.02S	26°52'36.31E	Erven
4043	MELODING	14532	0	28°9'6.3S	26°52'37.37E	Erven
4044	MELODING	14534	0	28°9'6.95S	26°52'36.65E	Erven
4045	MELODING	6331	0	28°8'55.43S	26°53'4.11E	Erven
4046	MELODING	6333	0	28°8'55.98S	26°53'4.75E	Erven
4047	MELODING	6340	0	28°8'57.89S	26°53'6.98E	Erven
4048	MELODING	6342	0	28°8'58.44S	26°53'7.62E	Erven

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4049	MELODING	5906	0	28°8'34.09S	26°53'9.87E	Erven
4050	MELODING	5908	0	28°8'34.63S	26°53'10.51E	Erven
4051	MELODING	4570	0	28°9'10.6S	26°53'33.59E	Erven
4052	MELODING	4572	0	28°9'11.24S	26°53'33.08E	Erven
4053	MELODING	3554	0	28°8'59.04S	26°53'42.86E	Erven
4054	MELODING	3556	0	28°8'59.36S	26°53'41.87E	Erven
4055	MELODING	4145	0	28°8'50.13S	26°53'31.28E	Erven
4056	MELODING	4147	0	28°8'50.67S	26°53'31.91E	Erven
4057	MELODING	14742	0	28°9'3.94S	26°52'57.71E	Erven
4058	MELODING	14744	0	28°9'4.62S	26°52'58.5E	Erven
4059	MELODING	14318	0	28°9'1.32S	26°52'36.84E	Erven
4060	MELODING	14320	0	28°9'2.01S	26°52'37.59E	Erven
4061	MELODING	14325	0	28°9'0.96S	26°52'39.8E	Erven
4062	MELODING	14327	0	28°9'0.31S	26°52'40.51E	Erven
4063	MELODING	5974	0	28°8'38.6S	26°53'9.56E	Erven
4064	MELODING	6038	0	28°8'37.46S	26°53'7.15E	Erven
4065	MELODING	6217	0	28°8'48.92S	26°53'0.69E	Erven
4066	MELODING	6216	0	28°8'48.91S	26°53'1.41E	Erven
4067	MELODING	5987	0	28°8'43.4S	26°53'7.64E	Erven
4068	MELODING	6022	0	28°8'42.39S	26°53'7.72E	Erven
4069	MELODING	5627	0	28°8'48.65S	26°53'4.57E	Erven
4070	MELODING	5740	0	28°8'52.09S	26°53'7.1E	Erven
4071	MELODING	5680	0	28°8'49.08S	26°53'8.82E	Erven
4072	MELODING	5679	0	28°8'49.34S	26°53'9.11E	Erven
4073	MELODING	5459	0	28°8'45.57S	26°53'18.83E	Erven
4074	MELODING	5505	0	28°8'47.9S	26°53'18.81E	Erven
4075	MELODING	4126	0	28°8'58.63S	26°53'19.45E	Erven
4076	MELODING	4125	0	28°8'58.37S	26°53'18.94E	Erven
4077	MELODING	4466	0	28°8'58.77S	26°53'21E	Erven
4078	MELODING	4449	0	28°8'59.79S	26°53'20.39E	Erven
4079	MELODING	4492	0	28°8'58.95S	26°53'24.38E	Erven
4080	MELODING	4418	0	28°8'58.6S	26°53'28.79E	Erven
4081	MELODING	4417	0	28°8'58.9S	26°53'28.51E	Erven
4082	MELODING	4189	0	28°8'48.66S	26°53'26.61E	Erven
4083	MELODING	4238	0	28°8'49.12S	26°53'26.11E	Erven
4084	MELODING	4645	0	28°9'8.55S	26°53'24.92E	Erven
4085	MELODING	4629	0	28°9'7.15S	26°53'29.38E	Erven
4086	MELODING	4624	0	28°9'8.3S	26°53'31.17E	Erven
4087	MELODING	4790	0	28°9'8.84S	26°53'30.17E	Erven
4088	MELODING	4789	0	28°9'8.63S	26°53'29.81E	Erven
4089	MELODING	1578	0	28°8'17.23S	26°53'29.55E	Erven
4090	MELODING	1577	0	28°8'16.95S	26°53'29.26E	Erven
4091	MELODING	2626	0	28°8'24.68S	26°53'18.28E	Erven
4092	MELODING	5799	0	28°8'30.84S	26°53'11.12E	Erven
4093	MELODING	4589	0	28°9'1.66S	26°53'40.26E	Erven
4094	MELODING	4024	0	28°8'52.93S	26°53'37.02E	Erven
4095	MELODING	4019	0	28°8'51.51S	26°53'35.35E	Erven
4096	MELODING	2796	0	28°8'32.26S	26°53'19.34E	Erven
4097	MELODING	3574	0	28°8'49.16S	26°53'42.67E	Erven
4098	MELODING	2119	0	28°8'22.84S	26°53'20.43E	Erven
4099	MELODING	2126	0	28°8'20.83S	26°53'19.97E	Erven
4100	MELODING	12635	0	28°9'8.24S	26°53'5.75E	Erven
4101	MELODING	5330	0	28°8'40.31S	26°53'21.37E	Erven
4102	MELODING	2069	0	28°8'22.99S	26°53'24.29E	Erven
4103	MELODING	3332	0	28°8'41.6S	26°53'46.34E	Erven
4104	MELODING	13070	0	28°9'14.97S	26°53'21.09E	Erven
4105	MELODING	13027	0	28°9'17.56S	26°53'22.17E	Erven
4106	MELODING	5383	0	28°8'46.9S	26°53'24.22E	Erven
4107	MELODING	6463	0	28°9'2.48S	26°53'4.44E	Erven
4108	MELODING	5845	0	28°8'34.59S	26°53'14.67E	Erven

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4109	MELODING	12849	0	28°9'11.84S	26°53'12.74E	Erven
4110	MELODING	14990	0	28°9'11.86S	26°52'59.83E	Erven
4111	MELODING	12967	0	28°9'17.54S	26°53'26.68E	Erven
4112	MELODING	4562	0	28°9'8.11S	26°53'35.44E	Erven
4113	MELODING	12494	0	28°8'17.8S	26°53'14.77E	Erven
4114	MELODING	12561	0	28°8'18.64S	26°53'20.38E	Erven
4115	MELODING	12596	0	28°8'18.75S	26°53'19.2E	Erven
4116	MELODING	3423	0	28°8'46.09S	26°53'39.49E	Erven
4117	MELODING	3425	0	28°8'45.54S	26°53'38.84E	Erven
4118	MELODING	3433	0	28°8'43.35S	26°53'36.28E	Erven
4119	MELODING	3161	0	28°8'50.52S	26°53'36.76E	Erven
4120	MELODING	3163	0	28°8'49.98S	26°53'36.12E	Erven
4121	MELODING	3593	0	28°8'45.61S	26°53'44.62E	Erven
4122	MELODING	3595	0	28°8'44.97S	26°53'45.13E	Erven
4123	MELODING	2734	0	28°8'29.64S	26°53'18.31E	Erven
4124	MELODING	2736	0	28°8'29.08S	26°53'18.93E	Erven
4125	MELODING	2743	0	28°8'32.39S	26°53'18.19E	Erven
4126	MELODING	3167	0	28°8'48.9S	26°53'34.85E	Erven
4127	MELODING	12631	0	28°9'6.85S	26°53'5.42E	Erven
4128	MELODING	12639	0	28°9'9.32S	26°53'7.02E	Erven
4129	MELODING	12641	0	28°9'9.86S	26°53'7.66E	Erven
4130	MELODING	6232	0	28°8'43.16S	26°53'1.89E	Erven
4131	MELODING	6234	0	28°8'42.59S	26°53'2.5E	Erven
4132	MELODING	4470	0	28°8'57.59S	26°53'22.39E	Erven
4133	MELODING	4472	0	28°8'57.03S	26°53'23.01E	Erven
4134	MELODING	3434	0	28°8'43.07S	26°53'35.95E	Erven
4135	MELODING	3436	0	28°8'42.52S	26°53'35.31E	Erven
4136	MELODING	14971	0	28°9'10.98S	26°53'6.09E	Erven
4137	MELODING	14973	0	28°9'10.44S	26°53'5.46E	Erven
4138	MELODING	6354	0	28°8'57.82S	26°53'5.84E	Erven
4139	MELODING	5927	0	28°8'33.94S	26°53'8.66E	Erven
4140	MELODING	5929	0	28°8'33.69S	26°53'8.01E	Erven
4141	MELODING	4602	0	28°9'2.2S	26°53'28.89E	Erven
4142	MELODING	4604	0	28°9'2.76S	26°53'28.28E	Erven
4143	MELODING	4157	0	28°8'53.38S	26°53'35.07E	Erven
4144	MELODING	4159	0	28°8'54.02S	26°53'35.72E	Erven
4145	MELODING	4166	0	28°8'53.85S	26°53'34.57E	Erven
4146	MELODING	4168	0	28°8'53.3S	26°53'33.93E	Erven
4147	MELODING	14752	0	28°9'7.72S	26°53'1.69E	Erven
4148	MELODING	14757	0	28°9'9.39S	26°52'59.76E	Erven
4149	MELODING	14759	0	28°9'10.04S	26°52'59.05E	Erven
4150	MELODING	14336	0	28°9'2.83S	26°52'39.03E	Erven
4151	MELODING	14338	0	28°9'3.62S	26°52'38.14E	Erven
4152	MELODING	6362	0	28°8'55.62S	26°53'3.29E	Erven
4153	MELODING	6369	0	28°8'56.33S	26°53'2.52E	Erven
4154	MELODING	6371	0	28°8'56.88S	26°53'3.16E	Erven
4155	MELODING	5936	0	28°8'36.34S	26°53'9.86E	Erven
4156	MELODING	5938	0	28°8'36.88S	26°53'10.5E	Erven
4157	MELODING	5945	0	28°8'37.35S	26°53'9.99E	Erven
4158	MELODING	5948	0	28°8'36.54S	26°53'9.04E	Erven
4159	MELODING	14776	0	28°9'2.33S	26°52'45.99E	Erven
4160	MELODING	14778	0	28°9'3.01S	26°52'45.24E	Erven
4161	MELODING	14785	0	28°9'0.46S	26°52'46.76E	Erven
4162	MELODING	2588	0	28°8'23.15S	26°53'18.35E	Erven
4163	MELODING	2016	0	28°8'19.12S	26°53'24.79E	Erven
4164	MELODING	2014	0	28°8'18.57S	26°53'24.13E	Erven
4165	MELODING	1898	0	28°8'28.15S	26°53'30.09E	Erven
4166	MELODING	1965	0	28°8'26.44S	26°53'29.61E	Erven
4167	MELODING	1790	0	28°8'29.06S	26°53'34.41E	Erven
4168	MELODING	1789	0	28°8'28.72S	26°53'34.58E	Erven

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4169	MELODING	12428	0	28°8'23.13S	26°53'12.26E	Erven
4170	MELODING	12427	0	28°8'22.86S	26°53'11.96E	Erven
4171	MELODING	12434	0	28°8'25.93S	26°53'9.59E	Erven
4172	MELODING	12374	0	28°8'18.27S	26°53'10.76E	Erven
4173	MELODING	22265	26	28°8'29.39S	26°53'41.03E	Erven
4174	MELODING	22265	25	28°8'29.24S	26°53'40.6E	Erven
4175	MELODING	4638	0	28°9'5.7S	26°53'25.09E	Erven
4176	MELODING	4640	0	28°9'6.55S	26°53'24.8E	Erven
4177	MELODING	4650	0	28°9'10.17S	26°53'26.25E	Erven
4178	MELODING	4652	0	28°9'10.62S	26°53'26.96E	Erven
4179	MELODING	4202	0	28°8'52.11S	26°53'30.95E	Erven
4180	MELODING	4204	0	28°8'52.65S	26°53'31.59E	Erven
4181	MELODING	4211	0	28°8'54.58S	26°53'33.86E	Erven
4182	MELODING	4213	0	28°8'55.46S	26°53'34.48E	Erven
4183	MELODING	3191	0	28°8'38.59S	26°53'37.52E	Erven
4184	MELODING	3193	0	28°8'39.41S	26°53'37.02E	Erven
4185	MELODING	2750	0	28°8'30.4S	26°53'20.34E	Erven
4186	MELODING	2753	0	28°8'29.56S	26°53'21.26E	Erven
4187	MELODING	1574	0	28°8'16.07S	26°53'28.5E	Erven
4188	MELODING	1575	0	28°8'16.35S	26°53'28.81E	Erven
4189	MELODING	12653	0	28°9'13.2S	26°53'11.56E	Erven
4190	MELODING	12655	0	28°9'13.74S	26°53'12.19E	Erven
4191	MELODING	5381	0	28°8'46.34S	26°53'24.84E	Erven
4192	MELODING	5384	0	28°8'47.18S	26°53'23.92E	Erven
4193	MELODING	4042	0	28°8'57.88S	26°53'32.59E	Erven
4194	MELODING	4044	0	28°8'57.13S	26°53'32.75E	Erven
4195	MELODING	5541	0	28°8'46.92S	26°53'22.56E	Erven
4196	MELODING	5543	0	28°8'47.47S	26°53'21.94E	Erven
4197	MELODING	5545	0	28°8'48.04S	26°53'21.33E	Erven
4198	MELODING	4215	0	28°8'55.76S	26°53'33.61E	Erven
4199	MELODING	4217	0	28°8'54.78S	26°53'33.01E	Erven
4200	MELODING	3620	0	28°8'46.51S	26°53'46.16E	Erven
4201	MELODING	3622	0	28°8'47.21S	26°53'46.48E	Erven
4202	MELODING	3629	0	28°8'49.43S	26°53'44.7E	Erven
4203	MELODING	3631	0	28°8'50.07S	26°53'44.19E	Erven
4204	MELODING	2771	0	28°8'28.84S	26°53'28.16E	Erven
4205	MELODING	2773	0	28°8'29.02S	26°53'27.34E	Erven
4206	MELODING	3201	0	28°8'36.9S	26°53'37.87E	Erven
4207	MELODING	3203	0	28°8'36.25S	26°53'38.36E	Erven
4208	MELODING	1940	0	28°8'24.91S	26°53'32.22E	Erven
4209	MELODING	1942	0	28°8'25.6S	26°53'31.94E	Erven
4210	MELODING	12666	0	28°9'16.58S	26°53'16.27E	Erven
4211	MELODING	12674	0	28°9'14.73S	26°53'19.05E	Erven
4212	MELODING	12676	0	28°9'14.09S	26°53'19.56E	Erven
4213	MELODING	6269	0	28°8'45.29S	26°53'3.13E	Erven
4214	MELODING	6271	0	28°8'44.99S	26°53'2.53E	Erven
4215	MELODING	5396	0	28°8'50.65S	26°53'20.15E	Erven
4216	MELODING	5398	0	28°8'51.2S	26°53'19.54E	Erven
4217	MELODING	4505	0	28°8'57.88S	26°53'24.64E	Erven
4218	MELODING	4507	0	28°8'57.31S	26°53'25.24E	Erven
4219	MELODING	5337	0	28°8'38.48S	26°53'18.96E	Erven
4220	MELODING	4072	0	28°8'49.73S	26°53'32.12E	Erven
4221	MELODING	6609	0	28°8'23.04S	26°53'53.76E	Erven
4222	MELODING	6635	0	28°8'12.24S	26°53'20.43E	Erven
4223	MELODING	6792	0	28°8'54.39S	26°52'59.59E	Erven
4224	MELODING	6785	0	28°8'55.38S	26°52'59.9E	Erven
4225	MELODING	6705	0	28°8'50.56S	26°52'57.91E	Erven
4226	MELODING	6698	0	28°8'52.6S	26°53'2.35E	Erven
4227	MELODING	6691	0	28°8'50.38S	26°53'2.05E	Erven
4228	MELODING	6680	0	28°8'45.16S	26°52'57.33E	Erven

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4229	MELODING	6779	0	28°8'35.95S	26°53'3.41E	Erven
4230	MELODING	6772	0	28°8'38.72S	26°53'0.34E	Erven
4231	MELODING	6761	0	28°8'41.03S	26°52'59.45E	Erven
4232	MELODING	6754	0	28°8'38.24S	26°53'2.44E	Erven
4233	MELODING	6747	0	28°8'35.04S	26°53'0.8E	Erven
4234	MELODING	6736	0	28°8'40.58S	26°52'56.44E	Erven
4235	MELODING	6729	0	28°8'37.2S	26°52'59.77E	Erven
4236	MELODING	6722	0	28°8'34.38S	26°53'2.18E	Erven
4237	MELODING	6720	0	28°8'32.05S	26°52'59.48E	Erven
4238	MELODING	6916	0	28°8'54.01S	26°52'49.21E	Erven
4239	MELODING	6909	0	28°8'50.83S	26°52'45.59E	Erven
4240	MELODING	4531	0	28°9'0.69S	26°53'24.12E	Erven
4241	MELODING	4533	0	28°9'0.13S	26°53'24.73E	Erven
4242	MELODING	4094	0	28°8'49.59S	26°53'24.2E	Erven
4243	MELODING	4096	0	28°8'50.24S	26°53'23.49E	Erven
4244	MELODING	3066	0	28°8'38.88S	26°53'24.18E	Erven
4245	MELODING	3068	0	28°8'39.41S	26°53'24.81E	Erven
4246	MELODING	2630	0	28°8'25.93S	26°53'18.09E	Erven
4247	MELODING	2632	0	28°8'26.5S	26°53'17.47E	Erven
4248	MELODING	2646	0	28°8'27.98S	26°53'14.78E	Erven
4249	MELODING	2648	0	28°8'27.42S	26°53'15.39E	Erven
4250	MELODING	14270	0	28°8'57.2S	26°52'37.77E	Erven
4251	MELODING	14272	0	28°8'56.54S	26°52'38.49E	Erven
4252	MELODING	14514	0	28°9'7.87S	26°52'32.27E	Erven
4253	MELODING	14516	0	28°9'7.22S	26°52'32.99E	Erven
4254	MELODING	14948	0	28°9'6.56S	26°52'57.61E	Erven
4255	MELODING	5435	0	28°8'57.28S	26°53'12.93E	Erven
4256	MELODING	5437	0	28°8'56.61S	26°53'10.02E	Erven
4257	MELODING	4114	0	28°8'55.39S	26°53'17.89E	Erven
4258	MELODING	4540	0	28°8'58.16S	26°53'26.87E	Erven
4259	MELODING	3516	0	28°8'44.01S	26°53'31.79E	Erven
4260	MELODING	3521	0	28°8'48.12S	26°53'51.59E	Erven
4261	MELODING	3523	0	28°8'48.76S	26°53'51.09E	Erven
4262	MELODING	2652	0	28°8'26.29S	26°53'16.6E	Erven
4263	MELODING	2654	0	28°8'25.74S	26°53'17.22E	Erven
4264	MELODING	14711	0	28°8'59.33S	26°52'46.19E	Erven
4265	MELODING	14713	0	28°8'58.65S	26°52'46.94E	Erven
4266	MELODING	14288	0	28°8'55.52S	26°52'43.94E	Erven
4267	MELODING	14290	0	28°8'56.17S	26°52'43.22E	Erven
4268	MELODING	14951	0	28°9'5.41S	26°52'56.37E	Erven
4269	MELODING	14953	0	28°9'7.48S	26°52'56.92E	Erven
4270	MELODING	14788	0	28°8'59.48S	26°52'47.83E	Erven
4271	MELODING	14359	0	28°9'1.93S	26°52'34.07E	Erven
4272	MELODING	15009	0	28°9'15.87S	26°52'59.82E	Erven
4273	MELODING	15011	0	28°9'15.97S	26°53'0.69E	Erven
4274	MELODING	15018	0	28°9'10.53S	26°53'3.98E	Erven
4275	MELODING	15020	0	28°9'11.07S	26°53'4.61E	Erven
4276	MELODING	14591	0	28°9'12.22S	26°52'40.11E	Erven
4277	MELODING	14593	0	28°9'4.99S	26°52'41.76E	Erven
4278	MELODING	14598	0	28°9'6.88S	26°52'44.63E	Erven
4279	MELODING	14600	0	28°9'7.51S	26°52'45.37E	Erven
4280	MELODING	14167	0	28°8'58.55S	26°52'42.41E	Erven
4281	MELODING	14169	0	28°8'59.24S	26°52'41.68E	Erven
4282	MELODING	14605	0	28°9'7.47S	26°52'43.99E	Erven
4283	MELODING	14607	0	28°9'6.83S	26°52'43.26E	Erven
4284	MELODING	15028	0	28°9'11.4S	26°53'2.88E	Erven
4285	MELODING	14174	0	28°8'58.46S	26°52'43.79E	Erven
4286	MELODING	14176	0	28°8'57.81S	26°52'44.5E	Erven
4287	MELODING	14178	0	28°8'57.15S	26°52'45.22E	Erven
4288	MELODING	14183	0	28°8'55.51S	26°52'46.99E	Erven

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4289	MELODING	14185	0	28°8'52.12S	26°52'38.45E	Erven
4290	MELODING	15047	0	28°9'12.91S	26°53'0.22E	Erven
4291	MELODING	14627	0	28°9'12.18S	26°52'49.51E	Erven
4292	MELODING	14629	0	28°9'11.55S	26°52'48.77E	Erven
4293	MELODING	14636	0	28°9'10.74S	26°52'45.65E	Erven
4294	MELODING	15057	0	28°9'12.69S	26°53'4.01E	Erven
4295	MELODING	14203	0	28°8'58.29S	26°52'34.7E	Erven
4296	MELODING	14205	0	28°8'57.39S	26°52'34.56E	Erven
4297	MELODING	15065	0	28°9'15.24S	26°53'1.92E	Erven
4298	MELODING	15067	0	28°9'15.06S	26°53'0.35E	Erven
4299	MELODING	22265	7	28°8'24.85S	26°53'41.25E	Erven
4300	MELODING	22265	6	28°8'24.75S	26°53'41.98E	Erven
4301	MELODING	22265	27	28°8'29.4S	26°53'41.49E	Erven
4302	VENTERSBURG	12434	70	28°8'24.65S	26°53'10.25E	Erven
4303	VENTERSBURG	12434	69	28°8'25.19S	26°53'9.99E	Erven
4304	VENTERSBURG	12434	52	28°8'24.21S	26°53'8.89E	Erven
4305	VENTERSBURG	12434	51	28°8'23.96S	26°53'9.32E	Erven
4306	VENTERSBURG	12434	37	28°8'27.52S	26°53'8.08E	Erven
4307	VENTERSBURG	12434	34	28°8'27.91S	26°53'9.49E	Erven
4308	VENTERSBURG	12434	20	28°8'22.94S	26°53'11.4E	Erven
4309	VENTERSBURG	12434	19	28°8'22.56S	26°53'10.98E	Erven
4310	VENTERSBURG	12434	2	28°8'27.45S	26°53'6.89E	Erven
4311	VENTERSBURG	12434	1	28°8'27.93S	26°53'6.87E	Erven
4312	MELODING	2039	0	28°8'20.19S	26°53'23.66E	Erven
4313	MELODING	2435	0	28°8'36.2S	26°53'55.31E	Erven
4314	MELODING	1630	0	28°8'30.19S	26°53'37.3E	Erven
4315	MELODING	1638	0	28°8'32.56S	26°53'35.49E	Erven
4316	MELODING	1640	0	28°8'32.3S	26°53'34.68E	Erven
4317	MELODING	12772	0	28°9'7.99S	26°53'12.46E	Erven
4318	MELODING	12779	0	28°9'6.8S	26°53'9.48E	Erven
4319	MELODING	12790	0	28°9'9.86S	26°53'13.07E	Erven
4320	MELODING	12382	0	28°8'16.2S	26°53'21.43E	Erven
4321	MELODING	12805	0	28°9'13.04S	26°53'15.86E	Erven
4322	MELODING	5951	0	28°8'35.66S	26°53'8.01E	Erven
4323	MELODING	6389	0	28°9'0.35S	26°53'6.16E	Erven
4324	MELODING	6396	0	28°8'58.44S	26°53'3.93E	Erven
4325	MELODING	5523	0	28°8'45.62S	26°53'20.41E	Erven
4326	MELODING	5534	0	28°8'44.95S	26°53'24.69E	Erven
4327	MELODING	5961	0	28°8'34.05S	26°53'6.91E	Erven
4328	MELODING	14793	0	28°9'0.05S	26°52'51.52E	Erven
4329	MELODING	14365	0	28°9'3.47S	26°52'34.55E	Erven
4330	MELODING	14376	0	28°8'58.75S	26°52'32.32E	Erven
4331	MELODING	14384	0	28°8'57.92S	26°52'28.41E	Erven
4332	MELODING	12810	0	28°9'11.69S	26°53'14.14E	Erven
4333	MELODING	12817	0	28°9'9.7S	26°53'11.82E	Erven
4334	MELODING	12821	0	28°9'8.62S	26°53'10.55E	Erven
4335	MELODING	12384	0	28°8'15.55S	26°53'21.92E	Erven
4336	MELODING	12391	0	28°8'13.74S	26°53'20.19E	Erven
4337	MELODING	12395	0	28°8'13.33S	26°53'18.13E	Erven
4338	MELODING	14968	0	28°9'11.8S	26°53'7.04E	Erven
4339	MELODING	14970	0	28°9'11.25S	26°53'6.41E	Erven
4340	MELODING	5874	0	28°8'32.38S	26°53'10.51E	Erven
4341	MELODING	5876	0	28°8'32.92S	26°53'11.14E	Erven
4342	MELODING	5891	0	28°8'34.47S	26°53'11.9E	Erven
4343	MELODING	5893	0	28°8'33.93S	26°53'11.27E	Erven
4344	MELODING	5455	0	28°8'44.38S	26°53'20.22E	Erven
4345	MELODING	5457	0	28°8'44.94S	26°53'19.62E	Erven
4346	MELODING	4132	0	28°8'57.93S	26°53'17.69E	Erven
4347	MELODING	4134	0	28°8'57.39S	26°53'17.06E	Erven
4348	MELODING	4136	0	28°8'47.69S	26°53'28.43E	Erven

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4349	MELODING	3536	0	28°8'52.88S	26°53'47.78E	Erven
4350	MELODING	3538	0	28°8'53.52S	26°53'47.27E	Erven
4351	MELODING	15148	0	28°9'16.68S	26°53'6.4E	Erven
4352	MELODING	15150	0	28°9'16.8S	26°53'7.26E	Erven
4353	MELODING	14294	0	28°8'57.49S	26°52'41.8E	Erven
4354	MELODING	14296	0	28°8'58.14S	26°52'41.09E	Erven
4355	MELODING	14730	0	28°9'1.07S	26°52'54.33E	Erven
4356	MELODING	14732	0	28°9'2.61S	26°52'54.4E	Erven
4357	MELODING	14536	0	28°9'7.6S	26°52'35.94E	Erven
4358	MELODING	14538	0	28°9'8.25S	26°52'35.23E	Erven
4359	MELODING	5901	0	28°8'32.88S	26°53'8.03E	Erven
4360	MELODING	6329	0	28°8'54.89S	26°53'3.47E	Erven
4361	MELODING	6344	0	28°8'58.98S	26°53'8.26E	Erven
4362	MELODING	5465	0	28°8'47.28S	26°53'17.07E	Erven
4363	MELODING	5480	0	28°8'51.7S	26°53'17.33E	Erven
4364	MELODING	5902	0	28°8'32.98S	26°53'8.6E	Erven
4365	MELODING	5904	0	28°8'33.55S	26°53'9.23E	Erven
4366	MELODING	4574	0	28°9'12.19S	26°53'32.31E	Erven
4367	MELODING	4576	0	28°9'12.83S	26°53'31.8E	Erven
4368	MELODING	6897	0	28°8'47.9S	26°52'42.11E	Erven
4369	MELODING	6890	0	28°8'50.69S	26°52'47.65E	Erven
4370	MELODING	6883	0	28°8'53.35S	26°52'50.81E	Erven
4371	MELODING	6872	0	28°8'51.47S	26°52'50.17E	Erven
4372	MELODING	6865	0	28°8'48.85S	26°52'47.05E	Erven
4373	MELODING	6858	0	28°8'47.78S	26°52'48.17E	Erven
4374	MELODING	6847	0	28°8'49.05S	26°52'51.13E	Erven
4375	MELODING	6840	0	28°8'46.38S	26°52'47.99E	Erven
4376	MELODING	6833	0	28°8'46.92S	26°52'50.87E	Erven
4377	MELODING	6822	0	28°8'44.55S	26°52'51.88E	Erven
4378	MELODING	6815	0	28°8'42.14S	26°52'48.32E	Erven
4379	MELODING	6808	0	28°8'44.97S	26°52'45.02E	Erven
4380	MELODING	6797	0	28°8'41.97S	26°52'49.93E	Erven
4381	MELODING	6898	0	28°8'47.52S	26°52'42.74E	Erven
4382	MELODING	2157	0	28°8'28.99S	26°54'5.87E	Erven
4383	MELODING	2141	0	28°8'26.89S	26°53'59.19E	Erven
4384	MELODING	3806	0	28°8'33.32S	26°54'3.47E	Erven
4385	MELODING	2258	0	28°8'31.92S	26°54'3.21E	Erven
4386	MELODING	2235	0	28°8'29.47S	26°54'2.96E	Erven
4387	MELODING	2224	0	28°8'28.21S	26°53'58.45E	Erven
4388	MELODING	2381	0	28°8'38.81S	26°53'58.54E	Erven
4389	MELODING	2422	0	28°8'38.77S	26°53'54.6E	Erven
4390	MELODING	2443	0	28°8'38.84S	26°53'53.25E	Erven
4391	MELODING	2337	0	28°8'34S	26°53'53.06E	Erven
4392	MELODING	2328	0	28°8'36.74S	26°53'51.7E	Erven
4393	MELODING	2313	0	28°8'41.18S	26°53'52.67E	Erven
4394	MELODING	2306	0	28°8'42.78S	26°53'55.25E	Erven
4395	MELODING	3093	0	28°8'36.29S	26°53'42.74E	Erven
4396	MELODING	3082	0	28°8'38.38S	26°53'47.23E	Erven
4397	MELODING	12402	0	28°8'15.36S	26°53'15.97E	Erven
4398	MELODING	6401	0	28°8'57.07S	26°53'2.33E	Erven
4399	MELODING	6408	0	28°8'57.22S	26°53'0.93E	Erven
4400	MELODING	5963	0	28°8'34.96S	26°53'6.91E	Erven
4401	MELODING	5980	0	28°8'41.37S	26°53'9.94E	Erven
4402	MELODING	6413	0	28°8'58.59S	26°53'2.53E	Erven
4403	MELODING	14814	0	28°9'1.49S	26°52'48.7E	Erven
4404	MELODING	14821	0	28°9'1.47S	26°52'53.18E	Erven
4405	MELODING	14828	0	28°9'3.8S	26°52'50.66E	Erven
4406	MELODING	14389	0	28°8'57.62S	26°52'31E	Erven
4407	MELODING	14397	0	28°8'58.85S	26°52'27.51E	Erven
4408	MELODING	14404	0	28°9'1.58S	26°52'27.02E	Erven

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4409	MELODING	12829	0	28°9'6.45S	26°53'8.02E	Erven
4410	MELODING	12836	0	28°9'8.23S	26°53'8.52E	Erven
4411	MELODING	12847	0	28°9'11.3S	26°53'12.11E	Erven
4412	MELODING	6416	0	28°8'59.41S	26°53'3.48E	Erven
4413	MELODING	6424	0	28°9'1.59S	26°53'6.04E	Erven
4414	MELODING	6431	0	28°9'0.97S	26°53'4.25E	Erven
4415	MELODING	14832	0	28°9'5.11S	26°52'49.24E	Erven
4416	MELODING	14839	0	28°9'7.79S	26°52'49.16E	Erven
4417	MELODING	14846	0	28°9'6.16S	26°52'46.75E	Erven
4418	MELODING	14414	0	28°9'2.7S	26°52'29.4E	Erven
4419	MELODING	14421	0	28°8'59.82S	26°52'28.06E	Erven
4420	MELODING	1692	0	28°8'22.07S	26°53'39.05E	Erven
4421	MELODING	1699	0	28°8'21.09S	26°53'35.99E	Erven
4422	MELODING	12860	0	28°9'14.82S	26°53'15.36E	Erven
4423	MELODING	14214	0	28°8'53.56S	26°52'35.63E	Erven
4424	MELODING	14216	0	28°8'52.91S	26°52'36.34E	Erven
4425	MELODING	14642	0	28°9'11.71S	26°52'44.58E	Erven
4426	MELODING	14644	0	28°9'12.41S	26°52'43.84E	Erven
4427	MELODING	14218	0	28°8'52.25S	26°52'37.05E	Erven
4428	MELODING	14220	0	28°8'51.57S	26°52'37.81E	Erven
4429	MELODING	15093	0	28°9'13.98S	26°53'4.15E	Erven
4430	MELODING	15095	0	28°9'13.42S	26°53'4.76E	Erven
4431	MELODING	14224	0	28°8'52.82S	26°52'40.77E	Erven
4432	MELODING	14226	0	28°8'53.47S	26°52'40.06E	Erven
4433	MELODING	15111	0	28°9'15.76S	26°53'6.92E	Erven
4434	MELODING	14666	0	28°9'12.94S	26°52'44.96E	Erven
4435	MELODING	14689	0	28°9'2.88S	26°52'43.38E	Erven
4436	MELODING	15120	0	28°9'13.82S	26°53'9.41E	Erven
4437	MELODING	15122	0	28°9'14.36S	26°53'10.05E	Erven
4438	MELODING	15129	0	28°9'16.24S	26°53'12.27E	Erven
4439	MELODING	15131	0	28°9'17.39S	26°53'12.02E	Erven
4440	MELODING	14112	0	28°8'53.75S	26°52'33.33E	Erven
4441	MELODING	14114	0	28°8'54.55S	26°52'32.55E	Erven
4442	MELODING	14128	0	28°8'56.95S	26°52'26.11E	Erven
4443	MELODING	14130	0	28°8'49.21S	26°52'40.36E	Erven
4444	MELODING	14555	0	28°9'12.2S	26°52'32.2E	Erven
4445	MELODING	14557	0	28°9'12.3S	26°52'30.7E	Erven
4446	MELODING	2581	0	28°8'37.87S	26°53'47.69E	Erven
4447	MELODING	2574	0	28°8'36.35S	26°53'45.08E	Erven
4448	MELODING	2563	0	28°8'34.82S	26°53'40.41E	Erven
4449	MELODING	2552	0	28°8'31.37S	26°53'40.3E	Erven
4450	MELODING	12155	0	28°8'31.17S	26°53'44.09E	Erven
4451	MELODING	12071	0	28°8'25.46S	26°53'54.93E	Erven
4452	MELODING	12063	0	28°8'24.42S	26°53'51.63E	Erven
4453	MELODING	12056	0	28°8'23.41S	26°53'48.55E	Erven
4454	MELODING	12045	0	28°8'21.97S	26°53'44.12E	Erven
4455	MELODING	11805	0	28°8'21.19S	26°53'47.6E	Erven
4456	MELODING	11798	0	28°8'20.26S	26°53'44.66E	Erven
4457	MELODING	5790	0	28°8'29.39S	26°53'7.47E	Erven
4458	MELODING	6559	0	28°9'3.05S	26°53'6.53E	Erven
4459	MELODING	6032	0	28°8'39.08S	26°53'9.08E	Erven
4460	MELODING	5968	0	28°8'36.98S	26°53'7.66E	Erven
4461	MELODING	6218	0	28°8'48.5S	26°53'0.67E	Erven
4462	MELODING	6247	0	28°8'39S	26°53'6.3E	Erven
4463	MELODING	6285	0	28°8'40.97S	26°53'6.7E	Erven
4464	MELODING	5579	0	28°8'46.28S	26°53'7.32E	Erven
4465	MELODING	5601	0	28°8'53.95S	26°53'7.69E	Erven
4466	MELODING	5732	0	28°8'51.66S	26°53'7.61E	Erven
4467	MELODING	5681	0	28°8'48.8S	26°53'8.51E	Erven
4468	MELODING	5662	0	28°8'47.21S	26°53'7.72E	Erven

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4469	MELODING	5649	0	28°8'49.09S	26°53'12.52E	Erven
4470	MELODING	5547	0	28°8'48.74S	26°53'20.45E	Erven
4471	MELODING	5555	0	28°8'50.02S	26°53'17.89E	Erven
4472	MELODING	4124	0	28°8'58.1S	26°53'18.64E	Erven
4473	MELODING	4467	0	28°8'58.49S	26°53'21.31E	Erven
4474	MELODING	4503	0	28°8'58.49S	26°53'23.85E	Erven
4475	MELODING	4519	0	28°8'58.67S	26°53'27.23E	Erven
4476	MELODING	3550	0	28°8'57.76S	26°53'43.87E	Erven
4477	MELODING	3552	0	28°8'58.4S	26°53'43.36E	Erven
4478	MELODING	4149	0	28°8'51.21S	26°53'32.54E	Erven
4479	MELODING	4151	0	28°8'51.76S	26°53'33.17E	Erven
4480	MELODING	14746	0	28°9'5.67S	26°52'59.75E	Erven
4481	MELODING	14314	0	28°8'59.66S	26°52'35.82E	Erven
4482	MELODING	14316	0	28°9'0.69S	26°52'36.01E	Erven
4483	MELODING	14329	0	28°9'0.51S	26°52'41.55E	Erven
4484	MELODING	14748	0	28°9'6.31S	26°53'0.49E	Erven
4485	MELODING	14750	0	28°9'6.93S	26°53'1.24E	Erven
4486	MELODING	14975	0	28°9'9.9S	26°53'4.82E	Erven
4487	MELODING	14977	0	28°9'9.36S	26°53'4.19E	Erven
4488	MELODING	6350	0	28°8'58.91S	26°53'7.11E	Erven
4489	MELODING	6352	0	28°8'58.36S	26°53'6.47E	Erven
4490	MELODING	5923	0	28°8'35.1S	26°53'9.99E	Erven
4491	MELODING	5925	0	28°8'34.56S	26°53'9.37E	Erven
4492	MELODING	5482	0	28°8'51.01S	26°53'16.67E	Erven
4493	MELODING	5484	0	28°8'50.47S	26°53'16.04E	Erven
4494	MELODING	5499	0	28°8'46.07S	26°53'20.93E	Erven
4495	MELODING	5501	0	28°8'46.63S	26°53'20.32E	Erven
4496	MELODING	4170	0	28°8'52.76S	26°53'33.3E	Erven
4497	MELODING	4607	0	28°9'3.6S	26°53'27.37E	Erven
4498	MELODING	14761	0	28°9'10.7S	26°52'58.33E	Erven
4499	MELODING	14763	0	28°9'11.35S	26°52'57.62E	Erven
4500	MELODING	14340	0	28°9'2.85S	26°52'37.31E	Erven
4501	MELODING	14342	0	28°9'2.22S	26°52'36.57E	Erven
4502	MELODING	14995	0	28°9'13.36S	26°52'58.21E	Erven
4503	MELODING	14997	0	28°9'13.92S	26°52'57.6E	Erven
4504	MELODING	14999	0	28°9'14.48S	26°52'56.99E	Erven
4505	MELODING	6373	0	28°8'57.42S	26°53'3.8E	Erven
4506	MELODING	6375	0	28°8'57.97S	26°53'4.44E	Erven
4507	MELODING	5932	0	28°8'35.26S	26°53'8.6E	Erven
4508	MELODING	5934	0	28°8'35.8S	26°53'9.23E	Erven
4509	MELODING	4619	0	28°9'7.23S	26°53'31.08E	Erven
4510	MELODING	4621	0	28°9'7.68S	26°53'31.79E	Erven
4511	MELODING	14355	0	28°8'59.99S	26°52'33.43E	Erven
4512	MELODING	14357	0	28°9'0.89S	26°52'33.57E	Erven
4513	MELODING	15007	0	28°9'15.76S	26°52'58.95E	Erven
4514	MELODING	15022	0	28°9'11.65S	26°53'5.27E	Erven
4515	MELODING	15024	0	28°9'11.82S	26°53'4.42E	Erven
4516	MELODING	14587	0	28°9'11.89S	26°52'37.86E	Erven
4517	MELODING	14589	0	28°9'12.01S	26°52'38.87E	Erven
4518	MELODING	14162	0	28°8'56.92S	26°52'44.2E	Erven
4519	MELODING	14164	0	28°8'57.57S	26°52'43.49E	Erven
4520	MELODING	15030	0	28°9'11.96S	26°53'2.27E	Erven
4521	MELODING	15032	0	28°9'12.52S	26°53'1.66E	Erven
4522	MELODING	14170	0	28°8'59.79S	26°52'42.33E	Erven
4523	MELODING	14172	0	28°8'59.12S	26°52'43.07E	Erven
4524	MELODING	14187	0	28°8'52.82S	26°52'37.72E	Erven
4525	MELODING	14189	0	28°8'53.47S	26°52'37E	Erven
4526	MELODING	15049	0	28°9'12.36S	26°53'0.83E	Erven
4527	MELODING	15051	0	28°9'11.8S	26°53'1.44E	Erven
4528	MELODING	14623	0	28°9'11.28S	26°52'49.78E	Erven

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4529	MELODING	14850	0	28°9'4.87S	26°52'48.22E	Erven
4530	MELODING	14857	0	28°9'2.58S	26°52'50.72E	Erven
4531	MELODING	14426	0	28°9'1.28S	26°52'31.41E	Erven
4532	MELODING	14433	0	28°9'4.04S	26°52'33.36E	Erven
4533	MELODING	14861	0	28°9'1.27S	26°52'52.14E	Erven
4534	MELODING	1702	0	28°8'21.25S	26°53'34.92E	Erven
4535	MELODING	1710	0	28°8'19.8S	26°53'32.02E	Erven
4536	MELODING	2136	0	28°8'17.76S	26°53'22.82E	Erven
4537	MELODING	1716	0	28°8'19S	26°53'29.55E	Erven
4538	MELODING	12870	0	28°9'12.04S	26°53'11.92E	Erven
4539	MELODING	12877	0	28°9'10.06S	26°53'9.6E	Erven
4540	MELODING	12448	0	28°8'26.32S	26°53'4.96E	Erven
4541	MELODING	12455	0	28°8'27.24S	26°53'5.06E	Erven
4542	MELODING	14865	0	28°9'3.83S	26°52'53.92E	Erven
4543	MELODING	14872	0	28°9'5.08S	26°52'52.35E	Erven
4544	MELODING	14879	0	28°9'6.93S	26°52'53.19E	Erven
4545	MELODING	14445	0	28°9'1.84S	26°52'30.57E	Erven
4546	MELODING	14452	0	28°9'3.78S	26°52'29.07E	Erven
4547	MELODING	2143	0	28°8'27.03S	26°54'0.22E	Erven
4548	MELODING	2153	0	28°8'28.36S	26°54'4.35E	Erven
4549	MELODING	1718	0	28°8'18.68S	26°53'28.76E	Erven
4550	MELODING	1723	0	28°8'17.3S	26°53'27.2E	Erven
4551	MELODING	1730	0	28°8'24.09S	26°53'38.57E	Erven
4552	MELODING	1737	0	28°8'26.65S	26°53'37.51E	Erven
4553	MELODING	12888	0	28°9'1.04S	26°53'17.32E	Erven
4554	MELODING	12896	0	28°9'14.1S	26°53'17.3E	Erven
4555	MELODING	14887	0	28°9'6.16S	26°52'50.45E	Erven
4556	MELODING	14573	0	28°9'12.84S	26°52'36.25E	Erven
4557	MELODING	14575	0	28°9'12.96S	26°52'37.26E	Erven
4558	MELODING	14577	0	28°9'13.09S	26°52'38.28E	Erven
4559	MELODING	15001	0	28°9'15.18S	26°52'56.42E	Erven
4560	MELODING	15003	0	28°9'15.56S	26°52'57.2E	Erven
4561	MELODING	14152	0	28°8'53.47S	26°52'45.6E	Erven
4562	MELODING	14154	0	28°8'54.15S	26°52'46.55E	Erven
4563	MELODING	4836	0	28°9'14.03S	26°53'28.61E	Erven
4564	MELODING	4834	0	28°9'13.58S	26°53'27.91E	Erven
4565	MELODING	5374	0	28°8'44.23S	26°53'26.81E	Erven
4566	MELODING	5372	0	28°8'43.52S	26°53'25.95E	Erven
4567	MELODING	5367	0	28°8'42.16S	26°53'24.36E	Erven
4568	MELODING	5366	0	28°8'41.9S	26°53'24.05E	Erven
4569	MELODING	4016	0	28°8'50.72S	26°53'34.39E	Erven
4570	MELODING	4000	0	28°8'46.21S	26°53'28.45E	Erven
4571	MELODING	4008	0	28°8'48.46S	26°53'31.76E	Erven
4572	MELODING	4006	0	28°8'47.91S	26°53'31.13E	Erven
4573	MELODING	5350	0	28°8'37.47S	26°53'18.89E	Erven
4574	MELODING	5348	0	28°8'36.93S	26°53'18.24E	Erven
4575	MELODING	5346	0	28°8'36.38S	26°53'17.63E	Erven
4576	MELODING	5811	0	28°8'34.17S	26°53'15.06E	Erven
4577	MELODING	5809	0	28°8'33.61S	26°53'14.43E	Erven
4578	MELODING	5802	0	28°8'31.65S	26°53'12.08E	Erven
4579	MELODING	5798	0	28°8'30.56S	26°53'10.8E	Erven
4580	MELODING	5796	0	28°8'30.02S	26°53'10.18E	Erven
4581	MELODING	4823	0	28°9'11.07S	26°53'23.94E	Erven
4582	MELODING	4821	0	28°9'10.67S	26°53'23.16E	Erven
4583	MELODING	4025	0	28°8'53.35S	26°53'37.23E	Erven
4584	MELODING	4023	0	28°8'52.61S	26°53'36.6E	Erven
4585	MELODING	4423	0	28°8'57.25S	26°53'30.11E	Erven
4586	MELODING	4227	0	28°8'52.12S	26°53'29.59E	Erven
4587	MELODING	4237	0	28°8'49.4S	26°53'26.44E	Erven
4588	MELODING	4646	0	28°9'8.95S	26°53'24.99E	Erven

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4589	MELODING	4616	0	28°9'6.62S	26°53'29.83E	Erven
4590	MELODING	4799	0	28°9'8.5S	26°53'28.32E	Erven
4591	MELODING	4714	0	28°9'4.62S	26°53'29.79E	Erven
4592	MELODING	4747	0	28°9'8.66S	26°53'33.67E	Erven
4593	MELODING	1573	0	28°8'15.84S	26°53'27.93E	Erven
4594	MELODING	2628	0	28°8'25.44S	26°53'18.52E	Erven
4595	MELODING	12569	0	28°8'20.9S	26°53'17.84E	Erven
4596	MELODING	2089	0	28°8'18.82S	26°53'22.75E	Erven
4597	MELODING	2004	0	28°8'21.09S	26°53'28.86E	Erven
4598	MELODING	1976	0	28°8'19.51S	26°53'27.77E	Erven
4599	MELODING	1837	0	28°8'28.98S	26°53'31.27E	Erven
4600	MELODING	1955	0	28°8'25.69S	26°53'29.83E	Erven
4601	MELODING	1933	0	28°8'23.22S	26°53'29.96E	Erven
4602	MELODING	1796	0	28°8'28.97S	26°53'33.71E	Erven
4603	MELODING	1755	0	28°8'29.04S	26°53'35.6E	Erven
4604	MELODING	1627	0	28°8'29.15S	26°53'37.58E	Erven
4605	MELODING	1603	0	28°8'20.69S	26°53'39.98E	Erven
4606	MELODING	14625	0	28°9'11.95S	26°52'50.55E	Erven
4607	MELODING	14199	0	28°8'57.73S	26°52'35.53E	Erven
4608	MELODING	14201	0	28°8'58.67S	26°52'35.66E	Erven
4609	MELODING	15069	0	28°9'14.51S	26°53'1.03E	Erven
4610	MELODING	15071	0	28°9'13.95S	26°53'1.64E	Erven
4611	MELODING	14210	0	28°8'55.08S	26°52'34.14E	Erven
4612	MELODING	14212	0	28°8'54.22S	26°52'34.92E	Erven
4613	MELODING	14646	0	28°9'13.27S	26°52'42.25E	Erven
4614	MELODING	14648	0	28°9'13.84S	26°52'44.26E	Erven
4615	MELODING	14653	0	28°9'14.12S	26°52'46.89E	Erven
4616	MELODING	14655	0	28°9'13.33S	26°52'47.67E	Erven
4617	MELODING	15089	0	28°9'15.27S	26°53'2.95E	Erven
4618	MELODING	15091	0	28°9'14.54S	26°53'3.54E	Erven
4619	MELODING	14228	0	28°8'54.12S	26°52'39.35E	Erven
4620	MELODING	14230	0	28°8'54.77S	26°52'38.63E	Erven
4621	MELODING	14232	0	28°8'55.43S	26°52'37.92E	Erven
4622	MELODING	14245	0	28°8'52.58S	26°52'39.76E	Erven
4623	MELODING	15105	0	28°9'14.21S	26°53'6.75E	Erven
4624	MELODING	15107	0	28°9'14.78S	26°53'6.14E	Erven
4625	MELODING	15109	0	28°9'15.39S	26°53'6.03E	Erven
4626	MELODING	14668	0	28°9'12.31S	26°52'45.73E	Erven
4627	MELODING	14670	0	28°9'11.65S	26°52'46.44E	Erven
4628	MELODING	14685	0	28°9'1.39S	26°52'43.97E	Erven
4629	MELODING	14687	0	28°9'2.04S	26°52'43.11E	Erven
4630	MELODING	15116	0	28°9'13.96S	26°53'8.05E	Erven
4631	MELODING	15118	0	28°9'13.29S	26°53'8.7E	Erven
4632	MELODING	15133	0	28°9'17.28S	26°53'11.15E	Erven
4633	MELODING	15138	0	28°9'15.73S	26°53'10.21E	Erven
4634	MELODING	14108	0	28°8'52.02S	26°52'35.2E	Erven
4635	MELODING	14110	0	28°8'53.1S	26°52'34.04E	Erven
4636	MELODING	14124	0	28°8'56.69S	26°52'28.19E	Erven
4637	MELODING	14126	0	28°8'56.83S	26°52'27.13E	Erven
4638	MELODING	14559	0	28°9'11.64S	26°52'31.54E	Erven
4639	MELODING	14562	0	28°9'10.66S	26°52'32.61E	Erven
4640	MELODING	14569	0	28°9'12.58S	26°52'34.2E	Erven
4641	MELODING	14571	0	28°9'12.71S	26°52'35.23E	Erven
4642	MELODING	15005	0	28°9'15.65S	26°52'58.08E	Erven
4643	MELODING	14148	0	28°8'52.19S	26°52'44.13E	Erven
4644	MELODING	14150	0	28°8'52.83S	26°52'44.87E	Erven
4645	MELODING	4832	0	28°9'13.11S	26°53'27.16E	Erven
4646	MELODING	4830	0	28°9'12.67S	26°53'26.45E	Erven
4647	MELODING	5364	0	28°8'41.26S	26°53'23.3E	Erven
4648	MELODING	4004	0	28°8'47.38S	26°53'30.49E	Erven

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4649	MELODING	4002	0	28°8'46.83S	26°53'29.85E	Erven
4650	MELODING	5354	0	28°8'38.55S	26°53'20.15E	Erven
4651	MELODING	5352	0	28°8'38.02S	26°53'19.51E	Erven
4652	MELODING	5807	0	28°8'33.02S	26°53'13.68E	Erven
4653	MELODING	5805	0	28°8'32.46S	26°53'13.03E	Erven
4654	MELODING	5801	0	28°8'31.38S	26°53'11.77E	Erven
4655	MELODING	4021	0	28°8'52.07S	26°53'35.99E	Erven
4656	MELODING	4018	0	28°8'51.24S	26°53'35.03E	Erven
4657	MELODING	4703	0	28°9'4.44S	26°53'35.06E	Erven
4658	MELODING	4735	0	28°9'4.63S	26°53'28.85E	Erven
4659	MELODING	3458	0	28°8'47.49S	26°53'39.5E	Erven
4660	MELODING	5402	0	28°8'52.32S	26°53'18.33E	Erven
4661	MELODING	5404	0	28°8'52.88S	26°53'17.71E	Erven
4662	MELODING	5562	0	28°8'47.96S	26°53'20.4E	Erven
4663	MELODING	5564	0	28°8'47.31S	26°53'21.11E	Erven
4664	MELODING	5992	0	28°8'44.73S	26°53'6.28E	Erven
4665	MELODING	5994	0	28°8'45.3S	26°53'5.67E	Erven
4666	MELODING	4687	0	28°9'3.02S	26°53'30.69E	Erven
4667	MELODING	4688	0	28°9'3.25S	26°53'31.05E	Erven
4668	MELODING	5571	0	28°8'45.34S	26°53'23.25E	Erven
4669	MELODING	5573	0	28°8'44.78S	26°53'23.86E	Erven
4670	MELODING	4251	0	28°8'53.02S	26°53'29.37E	Erven
4671	MELODING	3206	0	28°8'36.98S	26°53'41.06E	Erven
4672	MELODING	3213	0	28°8'39.2S	26°53'39.28E	Erven
4673	MELODING	3215	0	28°8'39.83S	26°53'38.77E	Erven
4674	MELODING	2780	0	28°8'28.28S	26°53'24.49E	Erven
4675	MELODING	2782	0	28°8'28.29S	26°53'23.6E	Erven
4676	MELODING	2787	0	28°8'29.73S	26°53'22.08E	Erven
4677	MELODING	2789	0	28°8'30.29S	26°53'21.48E	Erven
4678	MELODING	2355	0	28°8'36.08S	26°53'53.15E	Erven
4679	MELODING	2357	0	28°8'36.72S	26°53'52.64E	Erven
4680	MELODING	1593	0	28°8'19.29S	26°53'36.04E	Erven
4681	MELODING	11779	0	28°8'17.52S	26°53'36.45E	Erven
4682	MELODING	11781	0	28°8'17.82S	26°53'37.59E	Erven
4683	MELODING	5837	0	28°8'36.87S	26°53'13.81E	Erven
4684	MELODING	5839	0	28°8'36.32S	26°53'14.42E	Erven
4685	MELODING	5410	0	28°8'51.48S	26°53'15.65E	Erven
4686	MELODING	5412	0	28°8'50.94S	26°53'15.02E	Erven
4687	MELODING	4496	0	28°9'0.01S	26°53'23.32E	Erven
4688	MELODING	4521	0	28°8'59.17S	26°53'26.79E	Erven
4689	MELODING	3704	0	28°8'50S	26°53'45.59E	Erven
4690	MELODING	3709	0	28°8'48.41S	26°53'46.87E	Erven
4691	MELODING	13016	0	28°9'14.07S	26°53'24.97E	Erven
4692	MELODING	11794	0	28°8'19.62S	26°53'43.17E	Erven
4693	MELODING	14276	0	28°8'55.24S	26°52'39.92E	Erven
4694	MELODING	14335	0	28°9'2.5S	26°52'39.39E	Erven
4695	MELODING	4320	0	28°8'52.75S	26°53'22.42E	Erven
4696	MELODING	6529	0	28°9'0.78S	26°52'57.04E	Erven
4697	MELODING	6423	0	28°9'1.32S	26°53'5.72E	Erven
4698	MELODING	5894	0	28°8'33.66S	26°53'10.95E	Erven
4699	MELODING	5817	0	28°8'35.95S	26°53'15.85E	Erven
4700	MELODING	14735	0	28°9'13.32S	26°52'54.21E	Erven
4701	MELODING	14560	0	28°9'11.31S	26°52'31.9E	Erven
4702	MELODING	12757	0	28°9'12.13S	26°53'17.61E	Erven
4703	MELODING	4090	0	28°8'48.52S	26°53'25.25E	Erven
4704	MELODING	4563	0	28°9'8.43S	26°53'35.19E	Erven
4705	MELODING	12497	0	28°8'16.97S	26°53'15.7E	Erven
4706	MELODING	12495	0	28°8'17.56S	26°53'15.07E	Erven
4707	MELODING	5336	0	28°8'38.75S	26°53'19.29E	Erven
4708	MELODING	5334	0	28°8'39.28S	26°53'19.92E	Erven

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4709	MELODING	22264	0	28°9'5.29S	26°53'17.89E	Erven
4710	MELODING	12429	0	28°8'23.39S	26°53'12.54E	Erven
4711	MELODING	12422	0	28°8'21.4S	26°53'10.27E	Erven
4712	MELODING	12439	0	28°8'26.4S	26°53'6.05E	Erven
4713	MELODING	22265	20	28°8'27.96S	26°53'41.4E	Erven
4714	MELODING	22265	12	28°8'26.68S	26°53'42.21E	Erven
4715	MELODING	22265	5	28°8'25.07S	26°53'42.62E	Erven
4716	VENTERSBURG	12434	64	28°8'24.4S	26°53'11.49E	Erven
4717	VENTERSBURG	12434	57	28°8'27.29S	26°53'10.07E	Erven
4718	VENTERSBURG	12434	50	28°8'23.59S	26°53'9.69E	Erven
4719	VENTERSBURG	12434	39	28°8'26.33S	26°53'8.01E	Erven
4720	VENTERSBURG	12434	32	28°8'27.75S	26°53'10.61E	Erven
4721	VENTERSBURG	12434	25	28°8'24.9S	26°53'13.73E	Erven
4722	VENTERSBURG	12434	14	28°8'22.12S	26°53'8.56E	Erven
4723	VENTERSBURG	12434	7	28°8'25.01S	26°53'6.9E	Erven
4724	MELODING	5419	0	28°8'52.49S	26°53'15.77E	Erven
4725	MELODING	5421	0	28°8'53.04S	26°53'16.4E	Erven
4726	MELODING	6448	0	28°8'58.4S	26°52'59.66E	Erven
4727	MELODING	6450	0	28°8'58.94S	26°53'0.29E	Erven
4728	MELODING	6457	0	28°9'0.85S	26°53'2.53E	Erven
4729	MELODING	5574	0	28°8'44.5S	26°53'24.16E	Erven
4730	MELODING	4690	0	28°9'3.46S	26°53'34.78E	Erven
4731	MELODING	4691	0	28°9'3.69S	26°53'35.13E	Erven
4732	MELODING	4695	0	28°9'4.83S	26°53'33.56E	Erven
4733	MELODING	4696	0	28°9'5.05S	26°53'33.93E	Erven
4734	MELODING	3671	0	28°8'50.06S	26°53'46.45E	Erven
4735	MELODING	3673	0	28°8'50.69S	26°53'45.94E	Erven
4736	MELODING	4261	0	28°8'56.04S	26°53'32.77E	Erven
4737	MELODING	2799	0	28°8'29.13S	26°53'24.54E	Erven
4738	MELODING	2801	0	28°8'29.81S	26°53'24.55E	Erven
4739	MELODING	2365	0	28°8'39.26S	26°53'50.61E	Erven
4740	MELODING	2367	0	28°8'33.39S	26°53'57.31E	Erven
4741	MELODING	2372	0	28°8'35.29S	26°53'57.79E	Erven
4742	MELODING	2374	0	28°8'36.06S	26°53'57.99E	Erven
4743	MELODING	1980	0	28°8'20.14S	26°53'29.55E	Erven
4744	MELODING	1986	0	28°8'22.05S	26°53'29.39E	Erven
4745	MELODING	6289	0	28°8'39.79S	26°53'8.1E	Erven
4746	MELODING	6296	0	28°8'54.59S	26°53'5.77E	Erven
4747	MELODING	6298	0	28°8'55.14S	26°53'6.41E	Erven
4748	MELODING	5863	0	28°8'29.99S	26°53'8.53E	Erven
4749	MELODING	5866	0	28°8'29.99S	26°53'7.21E	Erven
4750	MELODING	6301	0	28°8'55.95S	26°53'7.35E	Erven
4751	MELODING	3674	0	28°8'51.01S	26°53'45.68E	Erven
4752	MELODING	4488	0	28°8'57.77S	26°53'25.77E	Erven
4753	MELODING	6133	0	28°8'42.47S	26°53'1.11E	Erven
4754	MELODING	5521	0	28°8'46.18S	26°53'19.79E	Erven
4755	MELODING	4605	0	28°9'3.04S	26°53'27.97E	Erven
4756	MELODING	2651	0	28°8'26.57S	26°53'16.3E	Erven
4757	MELODING	2023	0	28°8'20.95S	26°53'27.19E	Erven
4758	MELODING	1842	0	28°8'27.75S	26°53'28.8E	Erven
4759	MELODING	14377	0	28°8'58.3S	26°52'32.25E	Erven
4760	MELODING	2597	0	28°8'25.59S	26°53'15.81E	Erven
4761	MELODING	6071	0	28°8'31.41S	26°53'4.24E	Erven
4762	MELODING	5913	0	28°8'35.99S	26°53'12.08E	Erven
4763	MELODING	6410	0	28°8'57.77S	26°53'1.57E	Erven
4764	MELODING	6376	0	28°8'58.24S	26°53'4.75E	Erven
4765	MELODING	14829	0	28°9'4.13S	26°52'50.31E	Erven
4766	MELODING	12493	0	28°8'18.13S	26°53'14.5E	Erven
4767	MELODING	12565	0	28°8'19.79S	26°53'19.16E	Erven
4768	MELODING	5341	0	28°8'37.4S	26°53'17.71E	Erven

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4769	MELODING	5339	0	28°8'37.94S	26°53'18.33E	Erven
4770	MELODING	4092	0	28°8'49.07S	26°53'24.63E	Erven
4771	MELODING	6606	0	28°8'22.49S	26°53'52.03E	Erven
4772	MELODING	6604	0	28°8'22.09S	26°53'50.76E	Erven
4773	MELODING	6633	0	28°8'12.96S	26°53'21.7E	Erven
4774	MELODING	6781	0	28°8'53.77S	26°53'1.73E	Erven
4775	MELODING	6710	0	28°8'52.97S	26°52'58.87E	Erven
4776	MELODING	6695	0	28°8'51.26S	26°53'3.13E	Erven
4777	MELODING	6693	0	28°8'50.07S	26°53'3.31E	Erven
4778	MELODING	6678	0	28°8'44.05S	26°52'57.39E	Erven
4779	MELODING	6676	0	28°8'42.63S	26°52'56.47E	Erven
4780	MELODING	6767	0	28°8'40.77S	26°52'58.2E	Erven
4781	MELODING	6765	0	28°8'41.6S	26°52'57.34E	Erven
4782	MELODING	6750	0	28°8'36.61S	26°53'4.22E	Erven
4783	MELODING	6748	0	28°8'34.64S	26°53'1.21E	Erven
4784	MELODING	6735	0	28°8'40.02S	26°52'57.12E	Erven
4785	MELODING	6733	0	28°8'38.86S	26°52'58.11E	Erven
4786	MELODING	6731	0	28°8'38.05S	26°52'58.92E	Erven
4787	MELODING	6672	0	28°8'35.05S	26°52'58.18E	Erven
4788	MELODING	6670	0	28°8'34.04S	26°52'59.45E	Erven
4789	MELODING	6913	0	28°8'52.89S	26°52'47.89E	Erven
4790	MELODING	6911	0	28°8'52.1S	26°52'47.06E	Erven
4791	MELODING	6895	0	28°8'48.74S	26°52'45.48E	Erven
4792	MELODING	6893	0	28°8'49.51S	26°52'46.34E	Erven
4793	MELODING	6878	0	28°8'53.69S	26°52'52.78E	Erven
4794	MELODING	6876	0	28°8'52.61S	26°52'52.52E	Erven
4795	MELODING	6861	0	28°8'46.63S	26°52'46.8E	Erven
4796	MELODING	6859	0	28°8'47.45S	26°52'47.73E	Erven
4797	MELODING	6844	0	28°8'47.92S	26°52'49.78E	Erven
4798	MELODING	6842	0	28°8'47.19S	26°52'48.9E	Erven
4799	MELODING	6829	0	28°8'45.46S	26°52'50.72E	Erven
4800	MELODING	6610	0	28°8'23.24S	26°53'54.38E	Erven
4801	MELODING	6608	0	28°8'22.86S	26°53'53.17E	Erven
4802	MELODING	6708	0	28°8'52.27S	26°52'58.67E	Erven
4803	MELODING	6706	0	28°8'50.23S	26°52'57.34E	Erven
4804	MELODING	6699	0	28°8'52.07S	26°53'2.04E	Erven
4805	MELODING	6697	0	28°8'52.97S	26°53'2.79E	Erven
4806	MELODING	6780	0	28°8'35.55S	26°53'3.85E	Erven
4807	MELODING	6778	0	28°8'36.41S	26°53'3.03E	Erven
4808	MELODING	6771	0	28°8'39.13S	26°52'59.94E	Erven
4809	MELODING	6769	0	28°8'39.98S	26°52'59.05E	Erven
4810	MELODING	6746	0	28°8'35.46S	26°53'0.39E	Erven
4811	MELODING	6744	0	28°8'36.21S	26°52'59.57E	Erven
4812	MELODING	6739	0	28°8'38.2S	26°52'57.39E	Erven
4813	MELODING	6737	0	28°8'39.61S	26°52'56.59E	Erven
4814	MELODING	6668	0	28°8'32.96S	26°53'0.58E	Erven
4815	MELODING	6718	0	28°8'33.35S	26°52'58.28E	Erven
4816	MELODING	6917	0	28°8'54.42S	26°52'49.67E	Erven
4817	MELODING	6915	0	28°8'53.59S	26°52'48.81E	Erven
4818	MELODING	6891	0	28°8'50.28S	26°52'47.2E	Erven
4819	MELODING	6889	0	28°8'51.07S	26°52'48.15E	Erven
4820	MELODING	6882	0	28°8'53.78S	26°52'51.21E	Erven
4821	MELODING	6880	0	28°8'54.8S	26°52'52.87E	Erven
4822	MELODING	6857	0	28°8'48.24S	26°52'48.62E	Erven
4823	MELODING	6855	0	28°8'48.96S	26°52'49.52E	Erven
4824	MELODING	6850	0	28°8'50.94S	26°52'51.68E	Erven
4825	MELODING	6848	0	28°8'49.51S	26°52'51.6E	Erven
4826	MELODING	6846	0	28°8'48.66S	26°52'50.71E	Erven
4827	MELODING	6823	0	28°8'44.08S	26°52'51.35E	Erven
4828	MELODING	14894	0	28°9'8.38S	26°52'53.04E	Erven

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4829	MELODING	14901	0	28°9'8.97S	26°52'52.4E	Erven
4830	MELODING	2163	0	28°8'30.38S	26°54'5.81E	Erven
4831	MELODING	1744	0	28°8'29.21S	26°53'36.45E	Erven
4832	MELODING	1751	0	28°8'30.45S	26°53'35.1E	Erven
4833	MELODING	14910	0	28°9'8.47S	26°52'49.96E	Erven
4834	MELODING	3009	0	28°8'41.75S	26°53'29.86E	Erven
4835	MELODING	3016	0	28°8'42.67S	26°53'27.57E	Erven
4836	MELODING	3023	0	28°8'40.79S	26°53'25.36E	Erven
4837	MELODING	2592	0	28°8'24.2S	26°53'17.32E	Erven
4838	MELODING	1760	0	28°8'27.16S	26°53'36.52E	Erven
4839	MELODING	1771	0	28°8'23.13S	26°53'38.18E	Erven
4840	MELODING	14478	0	28°9'7.51S	26°52'27.92E	Erven
4841	MELODING	14485	0	28°9'10.67S	26°52'28.4E	Erven
4842	MELODING	14493	0	28°9'5.48S	26°52'36.14E	Erven
4843	MELODING	14497	0	28°9'6.8S	26°52'34.72E	Erven
4844	MELODING	3459	0	28°8'47.98S	26°53'39.05E	Erven
4845	MELODING	3466	0	28°8'45.96S	26°53'36.69E	Erven
4846	MELODING	3477	0	28°8'42.84S	26°53'33.06E	Erven
4847	MELODING	3025	0	28°8'40.15S	26°53'24.62E	Erven
4848	MELODING	3032	0	28°8'38.26S	26°53'22.4E	Erven
4849	MELODING	3043	0	28°8'35.28S	26°53'18.92E	Erven
4850	MELODING	2209	0	28°8'33.99S	26°53'59.9E	Erven
4851	MELODING	1772	0	28°8'22.42S	26°53'37.28E	Erven
4852	MELODING	1779	0	28°8'24.99S	26°53'36.24E	Erven
4853	MELODING	1786	0	28°8'27.55S	26°53'35.18E	Erven
4854	MELODING	14920	0	28°9'11.84S	26°52'53.92E	Erven
4855	MELODING	14931	0	28°9'9.4S	26°52'49.74E	Erven
4856	MELODING	14938	0	28°9'6.29S	26°52'58.62E	Erven
4857	MELODING	6827	0	28°8'44.77S	26°52'49.82E	Erven
4858	MELODING	6825	0	28°8'43.27S	26°52'50.5E	Erven
4859	MELODING	6812	0	28°8'43.34S	26°52'47.02E	Erven
4860	MELODING	6810	0	28°8'44.09S	26°52'46.17E	Erven
4861	MELODING	6717	0	28°8'35.61S	26°52'55.97E	Erven
4862	MELODING	6714	0	28°8'40.12S	26°52'50.48E	Erven
4863	MELODING	2154	0	28°8'28.61S	26°54'4.63E	Erven
4864	MELODING	2151	0	28°8'28.22S	26°54'3.4E	Erven
4865	MELODING	2275	0	28°8'29.99S	26°54'3.94E	Erven
4866	MELODING	2273	0	28°8'30.63S	26°54'3.37E	Erven
4867	MELODING	2223	0	28°8'28.73S	26°53'58.44E	Erven
4868	MELODING	2221	0	28°8'29.52S	26°53'58.69E	Erven
4869	MELODING	2451	0	28°8'38.13S	26°53'52.85E	Erven
4870	MELODING	2449	0	28°8'38.75S	26°53'52.34E	Erven
4871	MELODING	2332	0	28°8'35.46S	26°53'52.78E	Erven
4872	MELODING	2330	0	28°8'36.08S	26°53'52.24E	Erven
4873	MELODING	2311	0	28°8'41.64S	26°53'53.46E	Erven
4874	MELODING	2309	0	28°8'42.07S	26°53'54.15E	Erven
4875	MELODING	3088	0	28°8'36.98S	26°53'44.89E	Erven
4876	MELODING	3086	0	28°8'37.48S	26°53'45.8E	Erven
4877	MELODING	2579	0	28°8'37.41S	26°53'46.91E	Erven
4878	MELODING	2577	0	28°8'36.97S	26°53'46.27E	Erven
4879	MELODING	2562	0	28°8'34.3S	26°53'40.75E	Erven
4880	MELODING	2559	0	28°8'33.21S	26°53'41.18E	Erven
4881	MELODING	12080	0	28°8'27.96S	26°53'57E	Erven
4882	MELODING	12076	0	28°8'26.29S	26°53'57.55E	Erven
4883	MELODING	12060	0	28°8'23.97S	26°53'50.26E	Erven
4884	MELODING	12058	0	28°8'23.68S	26°53'49.36E	Erven
4885	MELODING	12043	0	28°8'21.7S	26°53'43.13E	Erven
4886	MELODING	11808	0	28°8'21.48S	26°53'49.07E	Erven
4887	MELODING	6821	0	28°8'43.53S	26°52'52.14E	Erven
4888	MELODING	6816	0	28°8'41.76S	26°52'48.77E	Erven

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4889	MELODING	6814	0	28°8'42.57S	26°52'47.91E	Erven
4890	MELODING	6712	0	28°8'41.05S	26°52'51.55E	Erven
4891	MELODING	2158	0	28°8'29.11S	26°54'6.35E	Erven
4892	MELODING	2156	0	28°8'28.88S	26°54'5.49E	Erven
4893	MELODING	2249	0	28°8'29.1S	26°54'2.36E	Erven
4894	MELODING	2234	0	28°8'29.11S	26°54'3.25E	Erven
4895	MELODING	3824	0	28°8'29.4S	26°53'59.43E	Erven
4896	MELODING	3820	0	28°8'27.87S	26°53'58.95E	Erven
4897	MELODING	2447	0	28°8'39.43S	26°53'51.86E	Erven
4898	MELODING	2444	0	28°8'39.15S	26°53'52.97E	Erven
4899	MELODING	2359	0	28°8'37.41S	26°53'52.03E	Erven
4900	MELODING	2336	0	28°8'34.1S	26°53'52.6E	Erven
4901	MELODING	2307	0	28°8'42.56S	26°53'54.87E	Erven
4902	MELODING	3099	0	28°8'35.47S	26°53'40.19E	Erven
4903	MELODING	3094	0	28°8'36.06S	26°53'42.3E	Erven
4904	MELODING	3092	0	28°8'36.4S	26°53'43.13E	Erven
4905	MELODING	3090	0	28°8'36.71S	26°53'43.99E	Erven
4906	MELODING	2575	0	28°8'36.48S	26°53'45.5E	Erven
4907	MELODING	2573	0	28°8'36.23S	26°53'44.62E	Erven
4908	MELODING	2571	0	28°8'35.95S	26°53'43.78E	Erven
4909	MELODING	2566	0	28°8'35.28S	26°53'41.73E	Erven
4910	MELODING	2564	0	28°8'35.03S	26°53'40.88E	Erven
4911	MELODING	12074	0	28°8'25.89S	26°53'56.19E	Erven
4912	MELODING	12072	0	28°8'25.61S	26°53'55.34E	Erven
4913	MELODING	12064	0	28°8'24.56S	26°53'52.03E	Erven
4914	MELODING	12062	0	28°8'24.29S	26°53'51.2E	Erven
4915	MELODING	11806	0	28°8'21.33S	26°53'48E	Erven
4916	MELODING	6460	0	28°9'1.67S	26°53'3.49E	Erven
4917	MELODING	6462	0	28°9'2.22S	26°53'4.13E	Erven
4918	MELODING	6024	0	28°8'41.76S	26°53'8.5E	Erven
4919	MELODING	6026	0	28°8'41.2S	26°53'9.11E	Erven
4920	MELODING	6040	0	28°8'36.82S	26°53'6.74E	Erven
4921	MELODING	6042	0	28°8'36.15S	26°53'6.14E	Erven
4922	MELODING	5608	0	28°8'54.11S	26°53'9.63E	Erven
4923	MELODING	4262	0	28°8'56.2S	26°53'32.33E	Erven
4924	MELODING	4270	0	28°8'54.02S	26°53'29.49E	Erven
4925	MELODING	4272	0	28°8'53.48S	26°53'28.86E	Erven
4926	MELODING	3676	0	28°8'51.64S	26°53'45.17E	Erven
4927	MELODING	3678	0	28°8'52.28S	26°53'44.67E	Erven
4928	MELODING	3683	0	28°8'53.87S	26°53'43.4E	Erven
4929	MELODING	3685	0	28°8'54.51S	26°53'42.89E	Erven
4930	MELODING	2828	0	28°8'30.48S	26°53'22.8E	Erven
4931	MELODING	2830	0	28°8'29.92S	26°53'23.41E	Erven
4932	MELODING	3257	0	28°8'37.42S	26°53'42.06E	Erven
4933	MELODING	1990	0	28°8'23.42S	26°53'28.63E	Erven
4934	MELODING	1991	0	28°8'23.69S	26°53'28.34E	Erven
4935	MELODING	1993	0	28°8'24.22S	26°53'27.75E	Erven
4936	MELODING	12720	0	28°9'4.71S	26°53'10.42E	Erven
4937	MELODING	12722	0	28°9'5.27S	26°53'9.81E	Erven
4938	MELODING	4061	0	28°8'52.75S	26°53'35.92E	Erven
4939	MELODING	4068	0	28°8'50.76S	26°53'33.6E	Erven
4940	MELODING	3047	0	28°8'33.61S	26°53'17.49E	Erven
4941	MELODING	3480	0	28°8'44.12S	26°53'32.96E	Erven
4942	MELODING	3487	0	28°8'46.09S	26°53'35.27E	Erven
4943	MELODING	2613	0	28°8'25.97S	26°53'14.38E	Erven
4944	MELODING	2620	0	28°8'24.03S	26°53'16.49E	Erven
4945	MELODING	3052	0	28°8'35.09S	26°53'19.75E	Erven
4946	MELODING	2216	0	28°8'31.32S	26°53'59.23E	Erven
4947	MELODING	2227	0	28°8'28.52S	26°54'1.55E	Erven
4948	MELODING	14248	0	28°8'51.59S	26°52'40.83E	Erven

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4949	MELODING	14255	0	28°8'54.82S	26°52'41.65E	Erven
4950	MELODING	14942	0	28°9'7.59S	26°53'0.12E	Erven
4951	MELODING	14504	0	28°9'9.09S	26°52'32.22E	Erven
4952	MELODING	4514	0	28°8'57.25S	26°53'29.02E	Erven
4953	MELODING	4529	0	28°9'1.43S	26°53'24.3E	Erven
4954	MELODING	4536	0	28°8'59.28S	26°53'25.65E	Erven
4955	MELODING	3504	0	28°8'47.41S	26°53'35.75E	Erven
4956	MELODING	4100	0	28°8'51.37S	26°53'22.27E	Erven
4957	MELODING	3062	0	28°8'37.79S	26°53'22.91E	Erven
4958	MELODING	3069	0	28°8'39.69S	26°53'25.12E	Erven
4959	MELODING	3508	0	28°8'46.28S	26°53'34.43E	Erven
4960	MELODING	2634	0	28°8'27.06S	26°53'16.87E	Erven
4961	MELODING	2641	0	28°8'29.02S	26°53'14.73E	Erven
4962	MELODING	14260	0	28°8'56.46S	26°52'39.86E	Erven
4963	MELODING	14267	0	28°8'58.45S	26°52'36.8E	Erven
4964	MELODING	14692	0	28°9'3.78S	26°52'43.16E	Erven
4965	MELODING	14513	0	28°9'8.2S	26°52'31.92E	Erven
4966	MELODING	14520	0	28°9'5.91S	26°52'34.42E	Erven
4967	MELODING	14944	0	28°9'7.82S	26°52'59.09E	Erven
4968	MELODING	21644	0	28°8'24.71S	26°54'0.62E	Erven
4969	MELODING	21625	0	28°8'27.67S	26°54'6.95E	Erven
4970	MELODING	3131	0	28°8'44.78S	26°53'29.81E	Erven
4971	MELODING	6527	0	28°9'0.31S	26°52'56.2E	Erven
4972	MELODING	6110	0	28°8'34.67S	26°53'4.43E	Erven
4973	MELODING	6150	0	28°8'48.92S	26°52'59.58E	Erven
4974	MELODING	6120	0	28°8'38.88S	26°53'4.9E	Erven
4975	MELODING	6255	0	28°8'41.41S	26°53'7.22E	Erven
4976	MELODING	6288	0	28°8'40.13S	26°53'7.62E	Erven
4977	MELODING	6286	0	28°8'40.69S	26°53'7E	Erven
4978	MELODING	5578	0	28°8'45.98S	26°53'7.64E	Erven
4979	MELODING	5637	0	28°8'45.27S	26°53'7.42E	Erven
4980	MELODING	5689	0	28°8'49.45S	26°53'7.66E	Erven
4981	MELODING	5687	0	28°8'48.75S	26°53'7.01E	Erven
4982	MELODING	5653	0	28°8'48.73S	26°53'11.06E	Erven
4983	MELODING	5651	0	28°8'49.26S	26°53'11.65E	Erven
4984	MELODING	5560	0	28°8'48.57S	26°53'19.61E	Erven
4985	MELODING	5558	0	28°8'49.14S	26°53'19.01E	Erven
4986	MELODING	4110	0	28°8'54.23S	26°53'19.06E	Erven
4987	MELODING	4309	0	28°8'55.9S	26°53'18.89E	Erven
4988	MELODING	4538	0	28°8'58.8S	26°53'26.09E	Erven
4989	MELODING	4520	0	28°8'58.96S	26°53'26.91E	Erven
4990	MELODING	4374	0	28°8'56.15S	26°53'29.93E	Erven
4991	MELODING	4269	0	28°8'54.4S	26°53'29.59E	Erven
4992	MELODING	4253	0	28°8'53.64S	26°53'29.77E	Erven
4993	MELODING	4181	0	28°8'49.87S	26°53'29.61E	Erven
4994	MELODING	4141	0	28°8'49.15S	26°53'29.79E	Erven
4995	MELODING	4811	0	28°9'8.99S	26°53'27.29E	Erven
4996	MELODING	4809	0	28°9'8.55S	26°53'26.56E	Erven
4997	MELODING	11804	0	28°8'21.05S	26°53'47.12E	Erven
4998	MELODING	11797	0	28°8'20.07S	26°53'44.29E	Erven
4999	MELODING	11795	0	28°8'19.88S	26°53'43.4E	Erven
5000	MELODING	6033	0	28°8'38.79S	26°53'8.75E	Erven
5001	MELODING	6031	0	28°8'39.34S	26°53'9.37E	Erven
5002	MELODING	5967	0	28°8'36.71S	26°53'7.35E	Erven
5003	MELODING	6152	0	28°8'48.14S	26°52'58.82E	Erven
5004	MELODING	6002	0	28°8'48.31S	26°53'2.59E	Erven
5005	MELODING	5989	0	28°8'43.95S	26°53'7.02E	Erven
5006	MELODING	6020	0	28°8'42.94S	26°53'7.13E	Erven
5007	MELODING	5580	0	28°8'46.56S	26°53'7.01E	Erven
5008	MELODING	5728	0	28°8'48.81S	26°53'6.38E	Erven

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5009	MELODING	5682	0	28°8'48.54S	26°53'8.18E	Erven
5010	MELODING	5667	0	28°8'48.59S	26°53'9.31E	Erven
5011	MELODING	5685	0	28°8'47.67S	26°53'7.22E	Erven
5012	MELODING	5556	0	28°8'49.69S	26°53'18.39E	Erven
5013	MELODING	5554	0	28°8'50.31S	26°53'18.24E	Erven
5014	MELODING	4123	0	28°8'57.82S	26°53'18.33E	Erven
5015	MELODING	4112	0	28°8'54.8S	26°53'18.46E	Erven
5016	MELODING	4518	0	28°8'58.39S	26°53'27.53E	Erven
5017	MELODING	4383	0	28°8'58.85S	26°53'29.86E	Erven
5018	MELODING	4381	0	28°8'58.52S	26°53'30.88E	Erven
5019	MELODING	4424	0	28°8'56.87S	26°53'29.72E	Erven
5020	MELODING	4139	0	28°8'48.59S	26°53'29.16E	Erven
5021	MELODING	4647	0	28°9'9.34S	26°53'25.06E	Erven
5022	MELODING	4623	0	28°9'8.49S	26°53'31.57E	Erven
5023	MELODING	4615	0	28°9'6.4S	26°53'29.47E	Erven
5024	MELODING	4748	0	28°9'8.97S	26°53'33.4E	Erven
5025	MELODING	4769	0	28°9'8.59S	26°53'32.82E	Erven
5026	MELODING	11792	0	28°8'19.42S	26°53'42.11E	Erven
5027	MELODING	6320	0	28°8'55.34S	26°53'5.58E	Erven
5028	MELODING	6322	0	28°8'54.79S	26°53'4.94E	Erven
5029	MELODING	12925	0	28°9'14.16S	26°53'18.15E	Erven
5030	MELODING	12927	0	28°9'14.79S	26°53'17.65E	Erven
5031	MELODING	12040	0	28°8'22.69S	26°53'42.5E	Erven
5032	MELODING	6478	0	28°9'0.23S	26°53'0.74E	Erven
5033	MELODING	6480	0	28°8'59.68S	26°53'0.11E	Erven
5034	MELODING	6488	0	28°8'59.57S	26°52'58.39E	Erven
5035	MELODING	6490	0	28°9'0.11S	26°52'59.02E	Erven
5036	MELODING	6048	0	28°8'33.66S	26°53'6.18E	Erven
5037	MELODING	6050	0	28°8'32.88S	26°53'6.18E	Erven
5038	MELODING	6055	0	28°8'29.34S	26°53'4.96E	Erven
5039	MELODING	6057	0	28°8'30.25S	26°53'4.97E	Erven
5040	MELODING	4705	0	28°9'4.23S	26°53'31.34E	Erven
5041	MELODING	3697	0	28°8'52.23S	26°53'43.81E	Erven
5042	MELODING	3699	0	28°8'51.59S	26°53'44.32E	Erven
5043	MELODING	3701	0	28°8'50.96S	26°53'44.83E	Erven
5044	MELODING	4288	0	28°8'51.8S	26°53'24.46E	Erven
5045	MELODING	4290	0	28°8'52.36S	26°53'23.85E	Erven
5046	MELODING	3271	0	28°8'41.8S	26°53'41.69E	Erven
5047	MELODING	3273	0	28°8'42.43S	26°53'41.18E	Erven
5048	MELODING	3705	0	28°8'49.69S	26°53'45.85E	Erven
5049	MELODING	3707	0	28°8'49.05S	26°53'46.35E	Erven
5050	MELODING	2849	0	28°8'33.74S	26°53'22.82E	Erven
5051	MELODING	2001	0	28°8'22.12S	26°53'28.59E	Erven
5052	MELODING	2010	0	28°8'19.61S	26°53'27.18E	Erven
5053	MELODING	2015	0	28°8'18.79S	26°53'24.66E	Erven
5054	MELODING	4685	0	28°9'2.62S	26°53'29.7E	Erven
5055	MELODING	4709	0	28°9'3.39S	26°53'29.71E	Erven
5056	MELODING	11788	0	28°8'18.83S	26°53'40.31E	Erven
5057	MELODING	11786	0	28°8'18.57S	26°53'39.46E	Erven
5058	MELODING	12593	0	28°8'19.57S	26°53'18.19E	Erven
5059	MELODING	2090	0	28°8'19.15S	26°53'22.53E	Erven
5060	MELODING	1982	0	28°8'20.67S	26°53'29.84E	Erven
5061	MELODING	2013	0	28°8'18.87S	26°53'26.06E	Erven
5062	MELODING	1608	0	28°8'22.21S	26°53'40.44E	Erven
5063	MELODING	1606	0	28°8'21.47S	26°53'40.79E	Erven
5064	MELODING	1604	0	28°8'20.79S	26°53'40.45E	Erven
5065	MELODING	12444	0	28°8'24.35S	26°53'5.99E	Erven
5066	MELODING	12442	0	28°8'25.26S	26°53'6.04E	Erven
5067	MELODING	22265	32	28°8'29.75S	26°53'39.41E	Erven
5068	MELODING	22265	17	28°8'27.25S	26°53'40.71E	Erven

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5069	MELODING	22265	14	28°8'25.87S	26°53'40.87E	Erven
5070	MELODING	22265	1	28°8'24.24S	26°53'41.57E	Erven
5071	MELODING	12143	0	28°8'27.48S	26°53'41.19E	Erven
5072	VENTERSBURG	12434	62	28°8'25.53S	26°53'11.99E	Erven
5073	VENTERSBURG	12434	60	28°8'26.21S	26°53'11.25E	Erven
5074	VENTERSBURG	12434	45	28°8'23.82S	26°53'8.4E	Erven
5075	MELODING	11790	0	28°8'19.11S	26°53'41.16E	Erven
5076	MELODING	2133	0	28°8'18.79S	26°53'21.92E	Erven
5077	MELODING	2124	0	28°8'21.48S	26°53'19.15E	Erven
5078	MELODING	2005	0	28°8'20.71S	26°53'29.01E	Erven
5079	MELODING	1984	0	28°8'21.39S	26°53'29.5E	Erven
5080	MELODING	1868	0	28°8'23.95S	26°53'18.88E	Erven
5081	MELODING	1839	0	28°8'28.64S	26°53'29.59E	Erven
5082	MELODING	1956	0	28°8'25.95S	26°53'30.14E	Erven
5083	MELODING	1954	0	28°8'25.42S	26°53'29.5E	Erven
5084	MELODING	1934	0	28°8'22.84S	26°53'30.1E	Erven
5085	MELODING	1932	0	28°8'23.61S	26°53'29.85E	Erven
5086	MELODING	1795	0	28°8'29.25S	26°53'33.4E	Erven
5087	MELODING	1756	0	28°8'28.67S	26°53'35.76E	Erven
5088	MELODING	1592	0	28°8'19.23S	26°53'35.45E	Erven
5089	MELODING	1590	0	28°8'18.96S	26°53'34.63E	Erven
5090	MELODING	12440	0	28°8'25.98S	26°53'6.04E	Erven
5091	MELODING	12438	0	28°8'26.81S	26°53'6.04E	Erven
5092	MELODING	22265	31	28°8'30.05S	26°53'39.8E	Erven
5093	MELODING	22265	29	28°8'30.31S	26°53'40.66E	Erven
5094	MELODING	22265	23	28°8'29S	26°53'39.7E	Erven
5095	MELODING	22265	21	28°8'27.89S	26°53'40.79E	Erven
5096	VENTERSBURG	12434	43	28°8'24.74S	26°53'8.11E	Erven
5097	VENTERSBURG	12434	28	28°8'26.3S	26°53'12.13E	Erven
5098	VENTERSBURG	12434	26	28°8'25.62S	26°53'12.89E	Erven
5099	VENTERSBURG	12434	11	28°8'23.2S	26°53'7.46E	Erven
5100	VENTERSBURG	12434	9	28°8'24.01S	26°53'6.89E	Erven
5101	MELODING	22265	19	28°8'27.63S	26°53'41.58E	Erven
5102	MELODING	22265	15	28°8'26.35S	26°53'40.61E	Erven
5103	MELODING	12145	0	28°8'29.44S	26°53'41.86E	Erven
5104	VENTERSBURG	12434	58	28°8'26.92S	26°53'10.47E	Erven
5105	VENTERSBURG	12434	56	28°8'27.28S	26°53'9.41E	Erven
5106	VENTERSBURG	12434	49	28°8'23.16S	26°53'10.08E	Erven
5107	VENTERSBURG	12434	47	28°8'23.11S	26°53'9.19E	Erven
5108	VENTERSBURG	12434	24	28°8'24.56S	26°53'13.31E	Erven
5109	VENTERSBURG	12434	22	28°8'23.68S	26°53'12.27E	Erven
5110	VENTERSBURG	12434	15	28°8'21.8S	26°53'8.91E	Erven
5111	VENTERSBURG	12434	13	28°8'22.47S	26°53'8.17E	Erven
5112	MELODING	5433	0	28°8'56.72S	26°53'13.54E	Erven
5113	MELODING	5440	0	28°8'55.73S	26°53'9.54E	Erven
5114	MELODING	4105	0	28°8'52.77S	26°53'20.74E	Erven
5115	MELODING	4544	0	28°8'57.04S	26°53'28.09E	Erven
5116	MELODING	3514	0	28°8'44.59S	26°53'32.45E	Erven
5117	MELODING	3524	0	28°8'49.07S	26°53'50.83E	Erven
5118	MELODING	2650	0	28°8'26.85S	26°53'16E	Erven
5119	MELODING	14700	0	28°9'0.82S	26°52'43.31E	Erven
5120	MELODING	14707	0	28°8'57.77S	26°52'46.64E	Erven
5121	MELODING	14718	0	28°8'57.03S	26°52'49.71E	Erven
5122	MELODING	14274	0	28°8'55.89S	26°52'39.2E	Erven
5123	MELODING	14286	0	28°8'54.87S	26°52'44.65E	Erven
5124	MELODING	14955	0	28°9'8.18S	26°52'57.74E	Erven
5125	MELODING	14959	0	28°9'9.05S	26°52'57.6E	Erven
5126	MELODING	14966	0	28°9'10.85S	26°52'56.54E	Erven
5127	MELODING	14096	0	28°8'48.03S	26°52'39.53E	Erven
5128	MELODING	5450	0	28°8'42.93S	26°53'21.71E	Erven

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5129	MELODING	5877	0	28°8'33.19S	26°53'11.46E	Erven
5130	MELODING	5881	0	28°8'34.28S	26°53'12.72E	Erven
5131	MELODING	5888	0	28°8'35.28S	26°53'12.85E	Erven
5132	MELODING	4552	0	28°9'2.19S	26°53'31.49E	Erven
5133	MELODING	4567	0	28°9'9.65S	26°53'34.36E	Erven
5134	MELODING	5463	0	28°8'46.72S	26°53'17.68E	Erven
5135	MELODING	4122	0	28°8'57.46S	26°53'18.2E	Erven
5136	MELODING	3102	0	28°8'35.3S	26°53'37.44E	Erven
5137	MELODING	3109	0	28°8'37.64S	26°53'35.85E	Erven
5138	MELODING	3541	0	28°8'54.9S	26°53'46.16E	Erven
5139	MELODING	15147	0	28°9'16.66S	26°53'5.93E	Erven
5140	MELODING	15154	0	28°9'15.05S	26°53'9.39E	Erven
5141	MELODING	15161	0	28°9'14.62S	26°53'8.88E	Erven
5142	MELODING	1623	0	28°8'27.63S	26°53'38.36E	Erven
5143	MELODING	12739	0	28°9'6.46S	26°53'12.52E	Erven
5144	MELODING	12743	0	28°9'7.79S	26°53'13.29E	Erven
5145	MELODING	12745	0	28°9'8.33S	26°53'13.92E	Erven
5146	MELODING	6064	0	28°8'32.97S	26°53'4.97E	Erven
5147	MELODING	6066	0	28°8'33.39S	26°53'4.26E	Erven
5148	MELODING	5630	0	28°8'47.2S	26°53'5.43E	Erven
5149	MELODING	5632	0	28°8'46.63S	26°53'6.06E	Erven
5150	MELODING	5640	0	28°8'46.54S	26°53'9.86E	Erven
5151	MELODING	5642	0	28°8'47.08S	26°53'10.5E	Erven
5152	MELODING	3710	0	28°8'48.09S	26°53'47.12E	Erven
5153	MELODING	3712	0	28°8'48.39S	26°53'49.16E	Erven
5154	MELODING	3719	0	28°8'50.67S	26°53'48.2E	Erven
5155	MELODING	3721	0	28°8'51.31S	26°53'47.69E	Erven
5156	MELODING	3282	0	28°8'40.15S	26°53'42.12E	Erven
5157	MELODING	3284	0	28°8'39.51S	26°53'42.63E	Erven
5158	MELODING	3291	0	28°8'38.73S	26°53'46.38E	Erven
5159	MELODING	3293	0	28°8'39.38S	26°53'45.88E	Erven
5160	MELODING	2861	0	28°8'33.01S	26°53'22.6E	Erven
5161	MELODING	2864	0	28°8'32.16S	26°53'23.52E	Erven
5162	MELODING	2019	0	28°8'19.86S	26°53'25.93E	Erven
5163	MELODING	2021	0	28°8'20.41S	26°53'26.56E	Erven
5164	MELODING	1628	0	28°8'29.46S	26°53'37.6E	Erven
5165	MELODING	12756	0	28°9'11.52S	26°53'17.69E	Erven
5166	MELODING	12759	0	28°9'11.65S	26°53'16.83E	Erven
5167	MELODING	14720	0	28°8'57.66S	26°52'50.43E	Erven
5168	MELODING	14727	0	28°8'59.98S	26°52'53.11E	Erven
5169	MELODING	14303	0	28°8'57.25S	26°52'40.79E	Erven
5170	MELODING	14104	0	28°8'50.69S	26°52'36.67E	Erven
5171	MELODING	14531	0	28°9'5.97S	26°52'38.35E	Erven
5172	MELODING	14542	0	28°9'8.49S	26°52'36.24E	Erven
5173	MELODING	5897	0	28°8'32.85S	26°53'10E	Erven
5174	MELODING	6330	0	28°8'55.16S	26°53'3.79E	Erven
5175	MELODING	6341	0	28°8'58.17S	26°53'7.31E	Erven
5176	MELODING	5467	0	28°8'47.85S	26°53'16.46E	Erven
5177	MELODING	5476	0	28°8'50.54S	26°53'17.18E	Erven
5178	MELODING	5907	0	28°8'34.36S	26°53'10.19E	Erven
5179	MELODING	4571	0	28°9'10.92S	26°53'33.34E	Erven
5180	MELODING	4578	0	28°9'13.31S	26°53'31.1E	Erven
5181	MELODING	4601	0	28°9'1.89S	26°53'29.2E	Erven
5182	MELODING	3555	0	28°8'59.39S	26°53'42.52E	Erven
5183	MELODING	4144	0	28°8'49.86S	26°53'30.96E	Erven
5184	MELODING	4148	0	28°8'50.94S	26°53'32.22E	Erven
5185	MELODING	4156	0	28°8'53.11S	26°53'34.76E	Erven
5186	MELODING	14743	0	28°9'4.26S	26°52'58.08E	Erven
5187	MELODING	14312	0	28°8'54.3S	26°52'43.99E	Erven
5188	MELODING	14319	0	28°9'1.63S	26°52'37.2E	Erven

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5189	MELODING	14326	0	28°9'0.63S	26°52'40.15E	Erven
5190	MELODING	14553	0	28°9'11.55S	26°52'32.91E	Erven
5191	MELODING	14983	0	28°9'9.8S	26°53'2.07E	Erven
5192	MELODING	6346	0	28°9'0.01S	26°53'8.42E	Erven
5193	MELODING	6353	0	28°8'58.08S	26°53'6.16E	Erven
5194	MELODING	5911	0	28°8'35.44S	26°53'11.45E	Erven
5195	MELODING	5919	0	28°8'36.19S	26°53'11.26E	Erven
5196	MELODING	6355	0	28°8'57.54S	26°53'5.52E	Erven
5197	MELODING	4603	0	28°9'2.48S	26°53'28.58E	Erven
5198	MELODING	5486	0	28°8'49.93S	26°53'15.41E	Erven
5199	MELODING	5497	0	28°8'45.51S	26°53'21.54E	Erven
5200	MELODING	4158	0	28°8'53.67S	26°53'35.44E	Erven
5201	MELODING	4165	0	28°8'54.2S	26°53'34.97E	Erven
5202	MELODING	4612	0	28°9'5.65S	26°53'28.56E	Erven
5203	MELODING	14758	0	28°9'9.71S	26°52'59.4E	Erven
5204	MELODING	14765	0	28°8'58.69S	26°52'49.94E	Erven
5205	MELODING	14334	0	28°9'2.18S	26°52'39.74E	Erven
5206	MELODING	14346	0	28°9'0.84S	26°52'35.02E	Erven
5207	MELODING	14993	0	28°9'12.7S	26°52'58.92E	Erven
5208	MELODING	6363	0	28°8'55.36S	26°53'2.97E	Erven
5209	MELODING	6370	0	28°8'56.61S	26°53'2.84E	Erven
5210	MELODING	6378	0	28°8'58.79S	26°53'5.4E	Erven
5211	MELODING	5930	0	28°8'33.3S	26°53'8.01E	Erven
5212	MELODING	5937	0	28°8'36.61S	26°53'10.18E	Erven
5213	MELODING	5944	0	28°8'37.62S	26°53'10.31E	Erven
5214	MELODING	4630	0	28°9'6.85S	26°53'29.22E	Erven
5215	MELODING	5510	0	28°8'49.4S	26°53'17.45E	Erven
5216	MELODING	14353	0	28°8'59.09S	26°52'33.3E	Erven
5217	MELODING	14777	0	28°9'2.66S	26°52'45.64E	Erven
5218	MELODING	14784	0	28°9'0.79S	26°52'46.4E	Erven
5219	MELODING	15008	0	28°9'15.81S	26°52'59.39E	Erven
5220	MELODING	15012	0	28°9'16.03S	26°53'1.13E	Erven
5221	MELODING	15019	0	28°9'10.81S	26°53'4.3E	Erven
5222	MELODING	15026	0	28°9'11.18S	26°53'3.74E	Erven
5223	MELODING	14581	0	28°9'11.42S	26°52'34.74E	Erven
5224	MELODING	12504	0	28°8'14.43S	26°53'19.27E	Erven
5225	MELODING	12506	0	28°8'14.88S	26°53'20.06E	Erven
5226	MELODING	12081	0	28°8'27.73S	26°53'56.69E	Erven
5227	MELODING	12083	0	28°8'27.12S	26°53'56.54E	Erven
5228	MELODING	6073	0	28°8'30.64S	26°53'4.24E	Erven
5229	MELODING	6075	0	28°8'29.89S	26°53'4.13E	Erven
5230	MELODING	6077	0	28°8'29.99S	26°53'3.07E	Erven
5231	MELODING	4740	0	28°9'6.37S	26°53'35.63E	Erven
5232	MELODING	4743	0	28°9'7.33S	26°53'34.87E	Erven
5233	MELODING	4745	0	28°9'7.96S	26°53'34.36E	Erven
5234	MELODING	5656	0	28°8'47.82S	26°53'10.31E	Erven
5235	MELODING	5658	0	28°8'47.28S	26°53'9.67E	Erven
5236	MELODING	4336	0	28°8'54.9S	26°53'23.65E	Erven
5237	MELODING	4338	0	28°8'55.45S	26°53'23.04E	Erven
5238	MELODING	3301	0	28°8'41.93S	26°53'43.83E	Erven
5239	MELODING	3303	0	28°8'42.57S	26°53'43.33E	Erven
5240	MELODING	2869	0	28°8'30.76S	26°53'25.04E	Erven
5241	MELODING	2871	0	28°8'30.2S	26°53'25.65E	Erven
5242	MELODING	2879	0	28°8'38.03S	26°53'24.77E	Erven
5243	MELODING	2881	0	28°8'37.48S	26°53'24.14E	Erven
5244	MELODING	1633	0	28°8'31.29S	26°53'36.84E	Erven
5245	MELODING	12771	0	28°9'8.26S	26°53'12.78E	Erven
5246	MELODING	12773	0	28°9'7.72S	26°53'12.14E	Erven
5247	MELODING	14585	0	28°9'11.77S	26°52'36.84E	Erven
5248	MELODING	14592	0	28°9'12.65S	26°52'40.55E	Erven

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5249	MELODING	14599	0	28°9'7.19S	26°52'45E	Erven
5250	MELODING	14168	0	28°8'58.88S	26°52'42.06E	Erven
5251	MELODING	14608	0	28°9'6.51S	26°52'42.89E	Erven
5252	MELODING	15034	0	28°9'13.09S	26°53'1.06E	Erven
5253	MELODING	15041	0	28°9'14.69S	26°52'58.27E	Erven
5254	MELODING	14177	0	28°8'57.48S	26°52'44.86E	Erven
5255	MELODING	14184	0	28°8'55.05S	26°52'47.48E	Erven
5256	MELODING	14610	0	28°9'10.18S	26°52'44.99E	Erven
5257	MELODING	15048	0	28°9'12.63S	26°53'0.52E	Erven
5258	MELODING	15055	0	28°9'10.67S	26°53'2.66E	Erven
5259	MELODING	14619	0	28°9'10.02S	26°52'48.3E	Erven
5260	MELODING	14630	0	28°9'11.23S	26°52'48.4E	Erven
5261	MELODING	15056	0	28°9'10.39S	26°53'2.97E	Erven
5262	MELODING	14197	0	28°8'56.83S	26°52'35.4E	Erven
5263	MELODING	14204	0	28°8'57.84S	26°52'34.63E	Erven
5264	MELODING	15059	0	28°9'13.28S	26°53'3.39E	Erven
5265	MELODING	15066	0	28°9'15.03S	26°53'1.3E	Erven
5266	MELODING	15073	0	28°9'13.39S	26°53'2.25E	Erven
5267	MELODING	14208	0	28°8'56.04S	26°52'34.35E	Erven
5268	MELODING	14215	0	28°8'53.24S	26°52'35.99E	Erven
5269	MELODING	14641	0	28°9'11.17S	26°52'43.93E	Erven
5270	MELODING	14657	0	28°9'12.66S	26°52'48.42E	Erven
5271	MELODING	15087	0	28°9'15.27S	26°53'3.77E	Erven
5272	MELODING	15094	0	28°9'13.7S	26°53'4.46E	Erven
5273	MELODING	14225	0	28°8'53.14S	26°52'40.42E	Erven
5274	MELODING	14236	0	28°8'55.62S	26°52'36.47E	Erven
5275	MELODING	6385	0	28°9'0.73S	26°53'7.65E	Erven
5276	MELODING	6388	0	28°9'0.62S	26°53'6.48E	Erven
5277	MELODING	6395	0	28°8'58.71S	26°53'4.25E	Erven
5278	MELODING	6397	0	28°8'58.17S	26°53'3.61E	Erven
5279	MELODING	5960	0	28°8'33.66S	26°53'6.91E	Erven
5280	MELODING	5962	0	28°8'34.43S	26°53'6.91E	Erven
5281	MELODING	14801	0	28°9'2.7S	26°52'48.64E	Erven
5282	MELODING	14383	0	28°8'57.98S	26°52'27.9E	Erven
5283	MELODING	14385	0	28°8'57.86S	26°52'28.92E	Erven
5284	MELODING	12811	0	28°9'11.41S	26°53'13.82E	Erven
5285	MELODING	12385	0	28°8'15.22S	26°53'22.29E	Erven
5286	MELODING	12392	0	28°8'13.55S	26°53'19.78E	Erven
5287	MELODING	12394	0	28°8'13.29S	26°53'18.94E	Erven
5288	MELODING	6409	0	28°8'57.5S	26°53'1.25E	Erven
5289	MELODING	6412	0	28°8'58.32S	26°53'2.2E	Erven
5290	MELODING	14820	0	28°8'59.5S	26°52'50.87E	Erven
5291	MELODING	14822	0	28°9'1.83S	26°52'52.8E	Erven
5292	MELODING	12828	0	28°9'6.72S	26°53'8.34E	Erven
5293	MELODING	12830	0	28°9'6.15S	26°53'7.7E	Erven
5294	MELODING	12837	0	28°9'8.51S	26°53'8.84E	Erven
5295	MELODING	12839	0	28°9'9.05S	26°53'9.48E	Erven
5296	MELODING	12412	0	28°8'18.26S	26°53'12.81E	Erven
5297	MELODING	14243	0	28°8'53.24S	26°52'39.04E	Erven
5298	MELODING	15101	0	28°9'13.09S	26°53'7.97E	Erven
5299	MELODING	14665	0	28°9'12.98S	26°52'46.18E	Erven
5300	MELODING	14672	0	28°9'12.64S	26°52'51.36E	Erven
5301	MELODING	14683	0	28°9'0.73S	26°52'44.68E	Erven
5302	MELODING	15114	0	28°9'14.52S	26°53'7.44E	Erven
5303	MELODING	15121	0	28°9'14.09S	26°53'9.73E	Erven
5304	MELODING	15128	0	28°9'15.98S	26°53'11.94E	Erven
5305	MELODING	15136	0	28°9'16.49S	26°53'10.38E	Erven
5306	MELODING	14111	0	28°8'53.42S	26°52'33.69E	Erven
5307	MELODING	14120	0	28°8'56.38S	26°52'30.87E	Erven
5308	MELODING	14127	0	28°8'56.89S	26°52'26.62E	Erven

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5309	MELODING	14558	0	28°9'11.97S	26°52'31.18E	Erven
5310	MELODING	14567	0	28°9'12.68S	26°52'33.36E	Erven
5311	MELODING	14574	0	28°9'12.9S	26°52'36.76E	Erven
5312	MELODING	15004	0	28°9'15.59S	26°52'57.64E	Erven
5313	MELODING	14137	0	28°8'51.09S	26°52'39.6E	Erven
5314	MELODING	14144	0	28°8'50.83S	26°52'42.56E	Erven
5315	MELODING	14155	0	28°8'54.57S	26°52'46.8E	Erven
5316	MELODING	4835	0	28°9'13.8S	26°53'28.23E	Erven
5317	MELODING	4828	0	28°9'12.21S	26°53'25.71E	Erven
5318	MELODING	4824	0	28°9'11.3S	26°53'24.3E	Erven
5319	MELODING	5373	0	28°8'43.79S	26°53'26.29E	Erven
5320	MELODING	5361	0	28°8'40.45S	26°53'22.38E	Erven
5321	MELODING	4015	0	28°8'50.36S	26°53'33.99E	Erven
5322	MELODING	4005	0	28°8'47.64S	26°53'30.82E	Erven
5323	MELODING	12414	0	28°8'18.81S	26°53'12.21E	Erven
5324	MELODING	6415	0	28°8'59.13S	26°53'3.16E	Erven
5325	MELODING	6417	0	28°8'59.68S	26°53'3.8E	Erven
5326	MELODING	14405	0	28°9'2.04S	26°52'27.09E	Erven
5327	MELODING	14845	0	28°9'6.66S	26°52'46.45E	Erven
5328	MELODING	1689	0	28°8'21.46S	26°53'39.3E	Erven
5329	MELODING	1691	0	28°8'22.19S	26°53'39.48E	Erven
5330	MELODING	1698	0	28°8'21.22S	26°53'36.44E	Erven
5331	MELODING	1700	0	28°8'20.96S	26°53'35.55E	Erven
5332	MELODING	12861	0	28°9'14.45S	26°53'14.95E	Erven
5333	MELODING	12863	0	28°9'13.97S	26°53'14.18E	Erven
5334	MELODING	14849	0	28°9'5.2S	26°52'47.87E	Erven
5335	MELODING	14851	0	28°9'4.54S	26°52'48.58E	Erven
5336	MELODING	14425	0	28°9'0.83S	26°52'31.35E	Erven
5337	MELODING	14427	0	28°9'1.73S	26°52'31.48E	Erven
5338	MELODING	14434	0	28°9'4.36S	26°52'33.74E	Erven
5339	MELODING	14436	0	28°9'5.28S	26°52'33.51E	Erven
5340	MELODING	2131	0	28°8'19.36S	26°53'21.58E	Erven
5341	MELODING	2135	0	28°8'18.09S	26°53'22.58E	Erven
5342	MELODING	12876	0	28°9'10.33S	26°53'9.91E	Erven
5343	MELODING	12878	0	28°9'9.78S	26°53'9.28E	Erven
5344	MELODING	12880	0	28°9'9.24S	26°53'8.64E	Erven
5345	MELODING	14871	0	28°9'4.76S	26°52'51.98E	Erven
5346	MELODING	14873	0	28°9'5.4S	26°52'52.71E	Erven
5347	MELODING	14880	0	28°9'6.61S	26°52'52.82E	Erven
5348	MELODING	14882	0	28°9'5.98S	26°52'52.08E	Erven
5349	MELODING	14453	0	28°9'3.74S	26°52'29.81E	Erven
5350	MELODING	5356	0	28°8'39.11S	26°53'20.79E	Erven
5351	MELODING	5349	0	28°8'37.2S	26°53'18.57E	Erven
5352	MELODING	5345	0	28°8'36.13S	26°53'17.28E	Erven
5353	MELODING	5810	0	28°8'33.91S	26°53'14.74E	Erven
5354	MELODING	5797	0	28°8'30.29S	26°53'10.51E	Erven
5355	MELODING	4822	0	28°9'10.87S	26°53'23.59E	Erven
5356	MELODING	4026	0	28°8'53.72S	26°53'37.39E	Erven
5357	MELODING	14904	0	28°9'8.01S	26°52'51.29E	Erven
5358	MELODING	2704	0	28°8'31.49S	26°53'14.48E	Erven
5359	MELODING	3381	0	28°8'49.88S	26°53'39.71E	Erven
5360	MELODING	3759	0	28°8'50.94S	26°53'47.09E	Erven
5361	MELODING	4366	0	28°8'52.48S	26°53'25.26E	Erven
5362	MELODING	3444	0	28°8'43.52S	26°53'34.89E	Erven
5363	MELODING	6550	0	28°9'5.51S	26°53'3.98E	Erven
5364	MELODING	12912	0	28°9'11.79S	26°53'22.28E	Erven
5365	MELODING	3355	0	28°8'41.23S	26°53'45.75E	Erven
5366	MELODING	4294	0	28°8'53.48S	26°53'22.64E	Erven
5367	MELODING	4177	0	28°8'50.87S	26°53'31.08E	Erven
5368	MELODING	12409	0	28°8'17.41S	26°53'13.73E	Erven

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5369	MELODING	15006	0	28°9'15.7S	26°52'58.52E	Erven
5370	MELODING	4089	0	28°8'48.24S	26°53'25.56E	Erven
5371	MELODING	12496	0	28°8'17.26S	26°53'15.38E	Erven
5372	MELODING	12563	0	28°8'19.23S	26°53'19.77E	Erven
5373	MELODING	12594	0	28°8'19.3S	26°53'18.57E	Erven
5374	MELODING	14455	0	28°9'4.5S	26°52'30.73E	Erven
5375	MELODING	14460	0	28°9'6.11S	26°52'32.6E	Erven
5376	MELODING	1720	0	28°8'18.12S	26°53'28.15E	Erven
5377	MELODING	1722	0	28°8'17.58S	26°53'27.51E	Erven
5378	MELODING	1729	0	28°8'23.72S	26°53'38.72E	Erven
5379	MELODING	1731	0	28°8'24.45S	26°53'38.42E	Erven
5380	MELODING	12463	0	28°8'15.85S	26°53'18.02E	Erven
5381	MELODING	12885	0	28°9'7.89S	26°53'7.07E	Erven
5382	MELODING	12887	0	28°9'7.33S	26°53'6.42E	Erven
5383	MELODING	14462	0	28°9'6.34S	26°52'31.57E	Erven
5384	MELODING	14902	0	28°9'8.65S	26°52'52.03E	Erven
5385	MELODING	14471	0	28°9'4.36S	26°52'27.44E	Erven
5386	MELODING	3015	0	28°8'42.95S	26°53'27.89E	Erven
5387	MELODING	3017	0	28°8'42.41S	26°53'27.25E	Erven
5388	MELODING	3449	0	28°8'44.93S	26°53'36.54E	Erven
5389	MELODING	3451	0	28°8'45.49S	26°53'37.2E	Erven
5390	MELODING	1761	0	28°8'26.79S	26°53'36.67E	Erven
5391	MELODING	1763	0	28°8'26.06S	26°53'36.97E	Erven
5392	MELODING	1768	0	28°8'24.23S	26°53'37.72E	Erven
5393	MELODING	1770	0	28°8'23.5S	26°53'38.03E	Erven
5394	MELODING	14477	0	28°9'7.06S	26°52'27.85E	Erven
5395	MELODING	14479	0	28°9'7.96S	26°52'27.99E	Erven
5396	MELODING	14484	0	28°9'10.22S	26°52'28.33E	Erven
5397	MELODING	14486	0	28°9'11.12S	26°52'28.47E	Erven
5398	MELODING	3457	0	28°8'47.18S	26°53'39.18E	Erven
5399	MELODING	3460	0	28°8'47.65S	26°53'38.67E	Erven
5400	MELODING	3024	0	28°8'40.42S	26°53'24.94E	Erven
5401	MELODING	3026	0	28°8'39.88S	26°53'24.3E	Erven
5402	MELODING	3031	0	28°8'38.53S	26°53'22.72E	Erven
5403	MELODING	3033	0	28°8'37.99S	26°53'22.09E	Erven
5404	MELODING	12513	0	28°8'17.04S	26°53'19.41E	Erven
5405	MELODING	12976	0	28°9'18.11S	26°53'25.32E	Erven
5406	MELODING	12979	0	28°9'17.16S	26°53'26.09E	Erven
5407	MELODING	12093	0	28°8'23.76S	26°53'46.58E	Erven
5408	MELODING	12094	0	28°8'23.9S	26°53'46.99E	Erven
5409	MELODING	12524	0	28°8'20.29S	26°53'15.98E	Erven
5410	MELODING	6095	0	28°8'29.33S	26°53'4.39E	Erven
5411	MELODING	6539	0	28°9'3.49S	26°53'0.21E	Erven
5412	MELODING	6542	0	28°9'4.3S	26°53'1.15E	Erven
5413	MELODING	5674	0	28°8'50.64S	26°53'10.97E	Erven
5414	MELODING	5675	0	28°8'50.34S	26°53'10.62E	Erven
5415	MELODING	4758	0	28°9'12.1S	26°53'31.03E	Erven
5416	MELODING	4759	0	28°9'11.73S	26°53'30.45E	Erven
5417	MELODING	4775	0	28°9'6.62S	26°53'34.52E	Erven
5418	MELODING	3748	0	28°8'54.44S	26°53'44.29E	Erven
5419	MELODING	4344	0	28°8'57.14S	26°53'21.2E	Erven
5420	MELODING	4345	0	28°8'57.42S	26°53'20.9E	Erven
5421	MELODING	3318	0	28°8'40.59S	26°53'44.01E	Erven
5422	MELODING	5343	0	28°8'36.87S	26°53'17.04E	Erven
5423	MELODING	5335	0	28°8'39.02S	26°53'19.6E	Erven
5424	MELODING	4081	0	28°8'47.3S	26°53'29.27E	Erven
5425	MELODING	6607	0	28°8'22.7S	26°53'52.58E	Erven
5426	MELODING	6637	0	28°8'11.84S	26°53'18.97E	Erven
5427	MELODING	6794	0	28°8'53.6S	26°53'0.49E	Erven
5428	MELODING	6783	0	28°8'54.57S	26°53'0.75E	Erven

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5429	MELODING	6707	0	28°8'52.19S	26°52'58.13E	Erven
5430	MELODING	6700	0	28°8'51.67S	26°53'0.78E	Erven
5431	MELODING	6696	0	28°8'52.19S	26°53'3.31E	Erven
5432	MELODING	6689	0	28°8'50.1S	26°53'0.78E	Erven
5433	MELODING	6682	0	28°8'46.23S	26°52'57.38E	Erven
5434	MELODING	6675	0	28°8'42.22S	26°52'56.07E	Erven
5435	MELODING	6777	0	28°8'36.76S	26°53'2.53E	Erven
5436	MELODING	6770	0	28°8'39.55S	26°52'59.52E	Erven
5437	MELODING	6763	0	28°8'41.82S	26°52'58.53E	Erven
5438	MELODING	6756	0	28°8'39.01S	26°53'1.59E	Erven
5439	MELODING	6752	0	28°8'37.4S	26°53'3.25E	Erven
5440	MELODING	6745	0	28°8'35.84S	26°52'60E	Erven
5441	MELODING	6738	0	28°8'38.76S	26°52'56.96E	Erven
5442	MELODING	6727	0	28°8'36.42S	26°53'0.67E	Erven
5443	MELODING	6674	0	28°8'36.52S	26°52'57.17E	Erven
5444	MELODING	6719	0	28°8'32.86S	26°52'59.1E	Erven
5445	MELODING	2208	0	28°8'34.37S	26°53'60E	Erven
5446	MELODING	2210	0	28°8'33.6S	26°53'59.81E	Erven
5447	MELODING	2603	0	28°8'27.25S	26°53'14E	Erven
5448	MELODING	2608	0	28°8'27.35S	26°53'12.87E	Erven
5449	MELODING	2610	0	28°8'26.8S	26°53'13.48E	Erven
5450	MELODING	14928	0	28°9'10.34S	26°52'50.85E	Erven
5451	MELODING	14930	0	28°9'9.71S	26°52'50.11E	Erven
5452	MELODING	14937	0	28°9'5.98S	26°52'58.25E	Erven
5453	MELODING	14939	0	28°9'6.6S	26°52'58.99E	Erven
5454	MELODING	4069	0	28°8'50.49S	26°53'33.28E	Erven
5455	MELODING	4071	0	28°8'49.95S	26°53'32.65E	Erven
5456	MELODING	3046	0	28°8'34.47S	26°53'17.97E	Erven
5457	MELODING	3048	0	28°8'34S	26°53'18.48E	Erven
5458	MELODING	2612	0	28°8'26.24S	26°53'14.08E	Erven
5459	MELODING	2614	0	28°8'25.69S	26°53'14.68E	Erven
5460	MELODING	2619	0	28°8'24.31S	26°53'16.19E	Erven
5461	MELODING	2621	0	28°8'23.75S	26°53'16.79E	Erven
5462	MELODING	2226	0	28°8'28.26S	26°54'0.97E	Erven
5463	MELODING	14503	0	28°9'8.76S	26°52'32.58E	Erven
5464	MELODING	14505	0	28°9'9.41S	26°52'31.87E	Erven
5465	MELODING	4515	0	28°8'57.51S	26°53'28.66E	Erven
5466	MELODING	4517	0	28°8'58.06S	26°53'28E	Erven
5467	MELODING	4526	0	28°9'0.58S	26°53'25.25E	Erven
5468	MELODING	4528	0	28°9'1.14S	26°53'24.64E	Erven
5469	MELODING	4097	0	28°8'50.52S	26°53'23.18E	Erven
5470	MELODING	4099	0	28°8'51.09S	26°53'22.58E	Erven
5471	MELODING	3061	0	28°8'37.52S	26°53'22.6E	Erven
5472	MELODING	3063	0	28°8'38.06S	26°53'23.23E	Erven
5473	MELODING	2633	0	28°8'26.78S	26°53'17.17E	Erven
5474	MELODING	2635	0	28°8'27.34S	26°53'16.56E	Erven
5475	MELODING	3319	0	28°8'40.27S	26°53'44.27E	Erven
5476	MELODING	3334	0	28°8'42.24S	26°53'45.83E	Erven
5477	MELODING	2453	0	28°8'37.41S	26°53'53.43E	Erven
5478	MELODING	2890	0	28°8'34.95S	26°53'23.02E	Erven
5479	MELODING	2891	0	28°8'34.67S	26°53'23.33E	Erven
5480	MELODING	2055	0	28°8'22.01S	26°53'24.73E	Erven
5481	MELODING	2056	0	28°8'21.74S	26°53'24.42E	Erven
5482	MELODING	1647	0	28°8'30.71S	26°53'32.27E	Erven
5483	MELODING	12529	0	28°8'21.7S	26°53'14.46E	Erven
5484	MELODING	12530	0	28°8'21.97S	26°53'14.15E	Erven
5485	MELODING	12547	0	28°8'18.12S	26°53'17.25E	Erven
5486	MELODING	12996	0	28°9'17.87S	26°53'24.17E	Erven
5487	MELODING	12111	0	28°8'24.51S	26°53'46.74E	Erven
5488	MELODING	12112	0	28°8'24.38S	26°53'46.33E	Erven

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5489	MELODING	12115	0	28°8'23.98S	26°53'45.09E	Erven
5490	MELODING	6118	0	28°8'38.27S	26°53'5.68E	Erven
5491	MELODING	6122	0	28°8'39.39S	26°53'4.46E	Erven
5492	MELODING	5678	0	28°8'49.53S	26°53'9.67E	Erven
5493	MELODING	5683	0	28°8'48.17S	26°53'8.08E	Erven
5494	MELODING	4356	0	28°8'55.28S	26°53'22.21E	Erven
5495	MELODING	4359	0	28°8'54.44S	26°53'23.13E	Erven
5496	MELODING	4783	0	28°9'7.2S	26°53'27.86E	Erven
5497	MELODING	4784	0	28°9'7.42S	26°53'28.22E	Erven
5498	MELODING	3774	0	28°8'54.29S	26°53'40.35E	Erven
5499	MELODING	3775	0	28°8'54.66S	26°53'40.52E	Erven
5500	MELODING	2900	0	28°8'35.41S	26°53'31.45E	Erven
5501	MELODING	2903	0	28°8'36.41S	26°53'30.75E	Erven
5502	MELODING	3339	0	28°8'43.83S	26°53'44.56E	Erven
5503	MELODING	3340	0	28°8'44.15S	26°53'44.3E	Erven
5504	MELODING	2473	0	28°8'33.41S	26°53'47.08E	Erven
5505	MELODING	2474	0	28°8'33.55S	26°53'47.49E	Erven
5506	MELODING	1653	0	28°8'31.04S	26°53'33.72E	Erven
5507	MELODING	1656	0	28°8'31.65S	26°53'34.81E	Erven
5508	MELODING	2082	0	28°8'21.55S	26°53'21.57E	Erven
5509	MELODING	2083	0	28°8'16.79S	26°53'23.57E	Erven
5510	MELODING	1822	0	28°8'23.15S	26°53'34.22E	Erven
5511	MELODING	1823	0	28°8'23.5S	26°53'34.41E	Erven
5512	MELODING	13009	0	28°9'15.9S	26°53'24.85E	Erven
5513	MELODING	13010	0	28°9'15.59S	26°53'25.1E	Erven
5514	MELODING	12125	0	28°8'25.98S	26°53'53.43E	Erven
5515	MELODING	12128	0	28°8'26.38S	26°53'54.67E	Erven
5516	MELODING	12129	0	28°8'26.51S	26°53'55.08E	Erven
5517	MELODING	12556	0	28°8'15.27S	26°53'19.29E	Erven
5518	MELODING	12557	0	28°8'15.03S	26°53'18.77E	Erven
5519	MELODING	6140	0	28°8'44.94S	26°52'59.69E	Erven
5520	MELODING	6141	0	28°8'45.33S	26°52'59.7E	Erven
5521	MELODING	4800	0	28°9'8.18S	26°53'28.16E	Erven
5522	MELODING	4801	0	28°9'7.95S	26°53'27.8E	Erven
5523	MELODING	4375	0	28°8'56.33S	26°53'30.44E	Erven
5524	MELODING	4376	0	28°8'56.72S	26°53'30.86E	Erven
5525	MELODING	3347	0	28°8'43.77S	26°53'43.71E	Erven
5526	MELODING	3348	0	28°8'43.45S	26°53'43.97E	Erven
5527	MELODING	3362	0	28°8'40.08S	26°53'36.15E	Erven
5528	MELODING	3363	0	28°8'40.35S	26°53'36.47E	Erven
5529	MELODING	3790	0	28°8'57.07S	26°53'40.82E	Erven
5530	MELODING	2917	0	28°8'40.81S	26°53'29.24E	Erven
5531	MELODING	2918	0	28°8'41.12S	26°53'28.91E	Erven
5532	MELODING	6914	0	28°8'53.26S	26°52'48.33E	Erven
5533	MELODING	6907	0	28°8'50.12S	26°52'44.76E	Erven
5534	MELODING	6900	0	28°8'46.74S	26°52'43.63E	Erven
5535	MELODING	6888	0	28°8'51.48S	26°52'48.57E	Erven
5536	MELODING	6881	0	28°8'54.27S	26°52'51.81E	Erven
5537	MELODING	6874	0	28°8'52.27S	26°52'51.04E	Erven
5538	MELODING	6863	0	28°8'48.09S	26°52'46.2E	Erven
5539	MELODING	6856	0	28°8'48.59S	26°52'49.08E	Erven
5540	MELODING	6849	0	28°8'51.33S	26°52'52.14E	Erven
5541	MELODING	6838	0	28°8'45S	26°52'48.66E	Erven
5542	MELODING	6831	0	28°8'46.24S	26°52'51.48E	Erven
5543	MELODING	6824	0	28°8'43.68S	26°52'50.88E	Erven
5544	MELODING	6813	0	28°8'42.96S	26°52'47.45E	Erven
5545	MELODING	6806	0	28°8'45.83S	26°52'45.99E	Erven
5546	MELODING	6799	0	28°8'42.76S	26°52'49.08E	Erven
5547	MELODING	2155	0	28°8'28.72S	26°54'5.06E	Erven
5548	MELODING	3808	0	28°8'33.95S	26°54'2.94E	Erven

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5549	MELODING	2161	0	28°8'29.83S	26°54'6.25E	Erven
5550	MELODING	2233	0	28°8'28.82S	26°54'2.67E	Erven
5551	MELODING	3823	0	28°8'29S	26°53'59.24E	Erven
5552	MELODING	2211	0	28°8'33.31S	26°53'59.63E	Erven
5553	MELODING	2411	0	28°8'39.16S	26°53'55.21E	Erven
5554	MELODING	2446	0	28°8'39.8S	26°53'52.42E	Erven
5555	MELODING	2360	0	28°8'37.76S	26°53'51.8E	Erven
5556	MELODING	2322	0	28°8'38.66S	26°53'50.18E	Erven
5557	MELODING	2315	0	28°8'40.67S	26°53'52E	Erven
5558	MELODING	2308	0	28°8'42.32S	26°53'54.51E	Erven
5559	MELODING	3091	0	28°8'36.57S	26°53'43.59E	Erven
5560	MELODING	3084	0	28°8'37.93S	26°53'46.5E	Erven
5561	MELODING	2643	0	28°8'28.84S	26°53'13.86E	Erven
5562	MELODING	2645	0	28°8'28.26S	26°53'14.47E	Erven
5563	MELODING	14693	0	28°9'3.46S	26°52'42.79E	Erven
5564	MELODING	14695	0	28°9'2.82S	26°52'42E	Erven
5565	MELODING	14519	0	28°9'6.23S	26°52'34.06E	Erven
5566	MELODING	14521	0	28°9'5.58S	26°52'34.77E	Erven
5567	MELODING	14943	0	28°9'8.16S	26°52'59.51E	Erven
5568	MELODING	14945	0	28°9'7.5S	26°52'58.72E	Erven
5569	MELODING	14947	0	28°9'6.88S	26°52'57.98E	Erven
5570	MELODING	5429	0	28°8'55.6S	26°53'14.76E	Erven
5571	MELODING	5432	0	28°8'56.44S	26°53'13.84E	Erven
5572	MELODING	4541	0	28°8'57.88S	26°53'27.17E	Erven
5573	MELODING	4543	0	28°8'57.32S	26°53'27.78E	Erven
5574	MELODING	3513	0	28°8'44.87S	26°53'32.79E	Erven
5575	MELODING	3515	0	28°8'44.31S	26°53'32.12E	Erven
5576	MELODING	2658	0	28°8'25.82S	26°53'19.84E	Erven
5577	MELODING	14701	0	28°9'0.5S	26°52'43.66E	Erven
5578	MELODING	14708	0	28°8'58.09S	26°52'46.28E	Erven
5579	MELODING	14710	0	28°8'58.78S	26°52'45.55E	Erven
5580	MELODING	14275	0	28°8'55.56S	26°52'39.56E	Erven
5581	MELODING	14278	0	28°8'54.59S	26°52'40.63E	Erven
5582	MELODING	14283	0	28°8'52.95S	26°52'42.41E	Erven
5583	MELODING	14285	0	28°8'54.5S	26°52'45.03E	Erven
5584	MELODING	14956	0	28°9'8.53S	26°52'58.15E	Erven
5585	MELODING	14958	0	28°9'9.43S	26°52'58.06E	Erven
5586	MELODING	14965	0	28°9'10.44S	26°52'56.84E	Erven
5587	MELODING	14967	0	28°9'12.1S	26°53'7.35E	Erven
5588	MELODING	14095	0	28°8'49.12S	26°52'30.84E	Erven
5589	MELODING	2088	0	28°8'18.44S	26°53'23.19E	Erven
5590	MELODING	2091	0	28°8'19.42S	26°53'22.46E	Erven
5591	MELODING	2493	0	28°8'34.02S	26°53'46.83E	Erven
5592	MELODING	2494	0	28°8'33.89S	26°53'46.42E	Erven
5593	MELODING	2497	0	28°8'33.49S	26°53'45.17E	Erven
5594	MELODING	1671	0	28°8'18.88S	26°53'31.34E	Erven
5595	MELODING	1672	0	28°8'19.01S	26°53'31.76E	Erven
5596	MELODING	2244	0	28°8'30.56S	26°54'0.86E	Erven
5597	MELODING	2661	0	28°8'26.87S	26°53'19.76E	Erven
5598	MELODING	2662	0	28°8'27.16S	26°53'19.46E	Erven
5599	MELODING	1836	0	28°8'28.19S	26°53'32.78E	Erven
5600	MELODING	1838	0	28°8'28.83S	26°53'30.07E	Erven
5601	MELODING	12570	0	28°8'21.13S	26°53'17.76E	Erven
5602	MELODING	13035	0	28°9'16.86S	26°53'21.83E	Erven
5603	MELODING	12140	0	28°8'26.06S	26°53'51.53E	Erven
5604	MELODING	6155	0	28°8'46.9S	26°52'59E	Erven
5605	MELODING	6156	0	28°8'46.51S	26°52'58.99E	Erven
5606	MELODING	11677	0	28°8'16.22S	26°53'32.68E	Erven
5607	MELODING	11678	0	28°8'16.36S	26°53'33.1E	Erven
5608	MELODING	5723	0	28°8'50.1S	26°53'7.69E	Erven

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5609	MELODING	5729	0	28°8'50.78S	26°53'6.68E	Erven
5610	MELODING	4815	0	28°9'10.14S	26°53'28.13E	Erven
5611	MELODING	4816	0	28°9'9.92S	26°53'27.75E	Erven
5612	MELODING	3813	0	28°8'35.46S	26°54'1.74E	Erven
5613	MELODING	3814	0	28°8'35.9S	26°54'1.47E	Erven
5614	MELODING	3365	0	28°8'40.9S	26°53'37.11E	Erven
5615	MELODING	3368	0	28°8'41.71S	26°53'38.05E	Erven
5616	MELODING	2499	0	28°8'33.23S	26°53'44.35E	Erven
5617	MELODING	2500	0	28°8'33.09S	26°53'43.94E	Erven
5618	MELODING	2583	0	28°8'38.34S	26°53'48.37E	Erven
5619	MELODING	2572	0	28°8'36.06S	26°53'44.24E	Erven
5620	MELODING	2565	0	28°8'35.16S	26°53'41.3E	Erven
5621	MELODING	2554	0	28°8'31.56S	26°53'41.19E	Erven
5622	MELODING	12153	0	28°8'31.54S	26°53'45.17E	Erven
5623	MELODING	12073	0	28°8'25.74S	26°53'55.76E	Erven
5624	MELODING	12065	0	28°8'24.66S	26°53'52.45E	Erven
5625	MELODING	12054	0	28°8'23.17S	26°53'47.76E	Erven
5626	MELODING	12047	0	28°8'22.21S	26°53'44.89E	Erven
5627	MELODING	11807	0	28°8'21.64S	26°53'48.62E	Erven
5628	MELODING	11796	0	28°8'20.01S	26°53'43.86E	Erven
5629	MELODING	5832	0	28°8'38.31S	26°53'12.15E	Erven
5630	MELODING	14738	0	28°9'2.57S	26°52'55.91E	Erven
5631	MELODING	6034	0	28°8'38.53S	26°53'8.42E	Erven
5632	MELODING	5966	0	28°8'36.37S	26°53'6.95E	Erven
5633	MELODING	6180	0	28°8'38.72S	26°53'4.08E	Erven
5634	MELODING	6249	0	28°8'38.43S	26°53'6.89E	Erven
5635	MELODING	6001	0	28°8'48.63S	26°53'2.62E	Erven
5636	MELODING	6019	0	28°8'43.21S	26°53'6.82E	Erven
5637	MELODING	5635	0	28°8'45.83S	26°53'6.83E	Erven
5638	MELODING	5599	0	28°8'53.39S	26°53'7.02E	Erven
5639	MELODING	5730	0	28°8'51.1S	26°53'6.98E	Erven
5640	MELODING	5727	0	28°8'49.19S	26°53'6.4E	Erven
5641	MELODING	5668	0	28°8'48.88S	26°53'9.64E	Erven
5642	MELODING	5654	0	28°8'48.45S	26°53'10.71E	Erven
5643	MELODING	5647	0	28°8'48.51S	26°53'11.88E	Erven
5644	MELODING	5552	0	28°8'50.15S	26°53'18.91E	Erven
5645	MELODING	5557	0	28°8'49.42S	26°53'18.71E	Erven
5646	MELODING	4130	0	28°8'58.54S	26°53'18.13E	Erven
5647	MELODING	4113	0	28°8'55.08S	26°53'18.13E	Erven
5648	MELODING	14097	0	28°8'48.39S	26°52'39.16E	Erven
5649	MELODING	5449	0	28°8'42.63S	26°53'22.24E	Erven
5650	MELODING	5451	0	28°8'43.26S	26°53'21.44E	Erven
5651	MELODING	4551	0	28°9'1.96S	26°53'31.13E	Erven
5652	MELODING	4553	0	28°9'2.42S	26°53'31.85E	Erven
5653	MELODING	4564	0	28°9'8.69S	26°53'35.12E	Erven
5654	MELODING	4566	0	28°9'9.33S	26°53'34.61E	Erven
5655	MELODING	4137	0	28°8'47.97S	26°53'28.74E	Erven
5656	MELODING	3101	0	28°8'34.95S	26°53'37.63E	Erven
5657	MELODING	3108	0	28°8'37.31S	26°53'36.08E	Erven
5658	MELODING	3534	0	28°8'52.25S	26°53'48.28E	Erven
5659	MELODING	15153	0	28°9'16.97S	26°53'8.6E	Erven
5660	MELODING	15155	0	28°9'15.43S	26°53'8.93E	Erven
5661	MELODING	15160	0	28°9'14.92S	26°53'8.53E	Erven
5662	MELODING	14293	0	28°8'57.16S	26°52'42.16E	Erven
5663	MELODING	14734	0	28°9'12.8S	26°52'54.68E	Erven
5664	MELODING	14539	0	28°9'8.62S	26°52'34.84E	Erven
5665	MELODING	14541	0	28°9'8.82S	26°52'35.88E	Erven
5666	MELODING	14544	0	28°9'7.83S	26°52'36.96E	Erven
5667	MELODING	5896	0	28°8'33.12S	26°53'10.32E	Erven
5668	MELODING	5898	0	28°8'32.58S	26°53'9.68E	Erven

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5669	MELODING	5466	0	28°8'47.56S	26°53'16.76E	Erven
5670	MELODING	5468	0	28°8'48.13S	26°53'16.15E	Erven
5671	MELODING	5477	0	28°8'50.81S	26°53'17.5E	Erven
5672	MELODING	5479	0	28°8'51.41S	26°53'17.67E	Erven
5673	MELODING	4579	0	28°9'12.97S	26°53'30.71E	Erven
5674	MELODING	4581	0	28°9'12.37S	26°53'29.94E	Erven
5675	MELODING	4600	0	28°9'1.46S	26°53'28.69E	Erven
5676	MELODING	3549	0	28°8'57.44S	26°53'44.12E	Erven
5677	MELODING	4154	0	28°8'52.57S	26°53'34.13E	Erven
5678	MELODING	4307	0	28°8'56.5S	26°53'18.27E	Erven
5679	MELODING	4501	0	28°8'59.06S	26°53'23.26E	Erven
5680	MELODING	4384	0	28°8'59.02S	26°53'29.39E	Erven
5681	MELODING	4425	0	28°8'56.61S	26°53'29.42E	Erven
5682	MELODING	4199	0	28°8'51.38S	26°53'29.81E	Erven
5683	MELODING	4185	0	28°8'48.79S	26°53'28.35E	Erven
5684	MELODING	4668	0	28°9'8.64S	26°53'24.2E	Erven
5685	MELODING	4820	0	28°9'8.95S	26°53'26.04E	Erven
5686	MELODING	4797	0	28°9'8.93S	26°53'29.02E	Erven
5687	MELODING	4732	0	28°9'5.36S	26°53'29.71E	Erven
5688	MELODING	4768	0	28°9'8.91S	26°53'32.57E	Erven
5689	MELODING	11791	0	28°8'19.27S	26°53'41.72E	Erven
5690	MELODING	11673	0	28°8'15.79S	26°53'30.71E	Erven
5691	MELODING	12567	0	28°8'20.34S	26°53'18.44E	Erven
5692	MELODING	2132	0	28°8'19.12S	26°53'21.66E	Erven
5693	MELODING	2035	0	28°8'19.67S	26°53'24.37E	Erven
5694	MELODING	1974	0	28°8'18.97S	26°53'27.14E	Erven
5695	MELODING	1869	0	28°8'23.5S	26°53'19.35E	Erven
5696	MELODING	1931	0	28°8'23.91S	26°53'29.37E	Erven
5697	MELODING	1743	0	28°8'28.9S	26°53'36.43E	Erven
5698	MELODING	1634	0	28°8'31.72S	26°53'36.58E	Erven
5699	MELODING	1591	0	28°8'19.09S	26°53'35.04E	Erven
5700	MELODING	14311	0	28°8'54.63S	26°52'43.63E	Erven
5701	MELODING	14751	0	28°9'7.25S	26°53'1.73E	Erven
5702	MELODING	14978	0	28°9'9.09S	26°53'3.88E	Erven
5703	MELODING	14982	0	28°9'9.52S	26°53'2.38E	Erven
5704	MELODING	14989	0	28°9'11.58S	26°53'0.14E	Erven
5705	MELODING	6347	0	28°8'59.72S	26°53'8.07E	Erven
5706	MELODING	5910	0	28°8'35.18S	26°53'11.14E	Erven
5707	MELODING	5912	0	28°8'35.71S	26°53'11.77E	Erven
5708	MELODING	5920	0	28°8'35.91S	26°53'10.94E	Erven
5709	MELODING	5922	0	28°8'35.37S	26°53'10.31E	Erven
5710	MELODING	5487	0	28°8'49.64S	26°53'15.06E	Erven
5711	MELODING	5489	0	28°8'43.09S	26°53'23.17E	Erven
5712	MELODING	5494	0	28°8'44.67S	26°53'22.45E	Erven
5713	MELODING	5496	0	28°8'45.23S	26°53'21.84E	Erven
5714	MELODING	5498	0	28°8'45.79S	26°53'21.24E	Erven
5715	MELODING	4609	0	28°9'4.98S	26°53'27.49E	Erven
5716	MELODING	4611	0	28°9'5.42S	26°53'28.21E	Erven
5717	MELODING	4613	0	28°9'5.88S	26°53'28.93E	Erven
5718	MELODING	14766	0	28°8'59.06S	26°52'49.56E	Erven
5719	MELODING	14768	0	28°8'59.72S	26°52'48.84E	Erven
5720	MELODING	14345	0	28°9'1.25S	26°52'35.43E	Erven
5721	MELODING	14992	0	28°9'12.43S	26°52'59.22E	Erven
5722	MELODING	14994	0	28°9'13.08S	26°52'58.51E	Erven
5723	MELODING	6379	0	28°8'59.06S	26°53'5.71E	Erven
5724	MELODING	6381	0	28°8'59.61S	26°53'6.35E	Erven
5725	MELODING	12432	0	28°8'24.28S	26°53'13.66E	Erven
5726	MELODING	12424	0	28°8'22.03S	26°53'11.03E	Erven
5727	MELODING	12441	0	28°8'25.62S	26°53'6.03E	Erven
5728	MELODING	12437	0	28°8'27.22S	26°53'6.05E	Erven

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5729	MELODING	22265	30	28°8'30.17S	26°53'40.24E	Erven
5730	MELODING	22265	22	28°8'27.69S	26°53'40.22E	Erven
5731	MELODING	22265	10	28°8'25.96S	26°53'41.86E	Erven
5732	MELODING	22265	3	28°8'24.33S	26°53'42.87E	Erven
5733	VENTERSBURG	12434	66	28°8'25.11S	26°53'10.74E	Erven
5734	VENTERSBURG	12434	55	28°8'27.02S	26°53'8.8E	Erven
5735	VENTERSBURG	12434	48	28°8'22.76S	26°53'9.56E	Erven
5736	VENTERSBURG	12434	41	28°8'26.37S	26°53'8.99E	Erven
5737	VENTERSBURG	12434	30	28°8'27.01S	26°53'11.37E	Erven
5738	VENTERSBURG	12434	23	28°8'24.16S	26°53'12.87E	Erven
5739	VENTERSBURG	12434	16	28°8'21.38S	26°53'9.34E	Erven
5740	VENTERSBURG	12434	5	28°8'25.99S	26°53'6.89E	Erven
5741	MELODING	5504	0	28°8'47.56S	26°53'19.3E	Erven
5742	MELODING	4622	0	28°9'7.92S	26°53'32.16E	Erven
5743	MELODING	4626	0	28°9'7.76S	26°53'30.65E	Erven
5744	MELODING	4636	0	28°9'5.51S	26°53'27.07E	Erven
5745	MELODING	5511	0	28°8'49.12S	26°53'17.1E	Erven
5746	MELODING	14350	0	28°8'57.73S	26°52'33.09E	Erven
5747	MELODING	14352	0	28°8'58.64S	26°52'33.23E	Erven
5748	MELODING	15025	0	28°9'11.55S	26°53'4.11E	Erven
5749	MELODING	15027	0	28°9'10.98S	26°53'3.24E	Erven
5750	MELODING	14582	0	28°9'11.58S	26°52'35.31E	Erven
5751	MELODING	14584	0	28°9'11.7S	26°52'36.33E	Erven
5752	MELODING	15033	0	28°9'12.8S	26°53'1.36E	Erven
5753	MELODING	15035	0	28°9'13.37S	26°53'0.75E	Erven
5754	MELODING	15042	0	28°9'14.32S	26°52'58.69E	Erven
5755	MELODING	15045	0	28°9'13.48S	26°52'59.61E	Erven
5756	MELODING	14611	0	28°9'9.86S	26°52'45.35E	Erven
5757	MELODING	14614	0	28°9'8.88S	26°52'46.41E	Erven
5758	MELODING	15054	0	28°9'10.95S	26°53'2.35E	Erven
5759	MELODING	14620	0	28°9'10.33S	26°52'48.67E	Erven
5760	MELODING	14622	0	28°9'10.96S	26°52'49.4E	Erven
5761	MELODING	14194	0	28°8'55.27S	26°52'35.15E	Erven
5762	MELODING	14196	0	28°8'56.38S	26°52'35.33E	Erven
5763	MELODING	15072	0	28°9'13.67S	26°53'1.95E	Erven
5764	MELODING	15074	0	28°9'13.11S	26°53'2.56E	Erven
5765	MELODING	15076	0	28°9'12.54S	26°53'3.16E	Erven
5766	MELODING	15081	0	28°9'13.59S	26°53'5.6E	Erven
5767	MELODING	15083	0	28°9'14.15S	26°53'4.99E	Erven
5768	MELODING	14649	0	28°9'13.9S	26°52'44.77E	Erven
5769	MELODING	14651	0	28°9'14.03S	26°52'45.78E	Erven
5770	MELODING	14656	0	28°9'13S	26°52'48.02E	Erven
5771	MELODING	14658	0	28°9'13.2S	26°52'49.06E	Erven
5772	MELODING	15084	0	28°9'14.43S	26°53'4.68E	Erven
5773	MELODING	15086	0	28°9'14.99S	26°53'4.07E	Erven
5774	MELODING	14233	0	28°8'55.76S	26°52'37.57E	Erven
5775	MELODING	14235	0	28°8'56.47S	26°52'36.65E	Erven
5776	MELODING	14242	0	28°8'53.56S	26°52'38.69E	Erven
5777	MELODING	14244	0	28°8'52.91S	26°52'39.4E	Erven
5778	MELODING	15102	0	28°9'13.37S	26°53'7.67E	Erven
5779	MELODING	15104	0	28°9'13.93S	26°53'7.06E	Erven
5780	MELODING	14673	0	28°9'12.98S	26°52'51.77E	Erven
5781	MELODING	14675	0	28°9'14.52S	26°52'52.68E	Erven
5782	MELODING	14682	0	28°9'0.4S	26°52'45.03E	Erven
5783	MELODING	14684	0	28°9'1.06S	26°52'44.32E	Erven
5784	MELODING	14690	0	28°9'3.19S	26°52'43.8E	Erven
5785	MELODING	15113	0	28°9'14.8S	26°53'7.07E	Erven
5786	MELODING	15135	0	28°9'17.03S	26°53'10.26E	Erven
5787	MELODING	14119	0	28°8'56.32S	26°52'31.38E	Erven
5788	MELODING	14121	0	28°8'56.44S	26°52'30.36E	Erven

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5789	MELODING	14566	0	28°9'9.32S	26°52'34.07E	Erven
5790	MELODING	14568	0	28°9'12.18S	26°52'33.82E	Erven
5791	MELODING	14136	0	28°8'51.42S	26°52'39.21E	Erven
5792	MELODING	14138	0	28°8'50.76S	26°52'39.96E	Erven
5793	MELODING	14145	0	28°8'51.15S	26°52'42.93E	Erven
5794	MELODING	14147	0	28°8'51.88S	26°52'43.77E	Erven
5795	MELODING	4827	0	28°9'11.99S	26°53'25.38E	Erven
5796	MELODING	4825	0	28°9'11.53S	26°53'24.64E	Erven
5797	MELODING	5357	0	28°8'39.35S	26°53'21.12E	Erven
5798	MELODING	5355	0	28°8'38.83S	26°53'20.46E	Erven
5799	MELODING	4017	0	28°8'50.98S	26°53'34.69E	Erven
5800	MELODING	3495	0	28°8'48.35S	26°53'37.91E	Erven
5801	MELODING	14652	0	28°9'14.1S	26°52'46.29E	Erven
5802	MELODING	3642	0	28°8'53.61S	26°53'41.18E	Erven
5803	MELODING	3149	0	28°8'49.25S	26°53'36.32E	Erven
5804	MELODING	6196	0	28°8'41.64S	26°53'4.56E	Erven
5805	MELODING	4753	0	28°9'10.5S	26°53'32.32E	Erven
5806	MELODING	3071	0	28°8'40.31S	26°53'25.87E	Erven
5807	MELODING	5553	0	28°8'50.52S	26°53'18.77E	Erven
5808	MELODING	12718	0	28°9'0.55S	26°53'13.94E	Erven
5809	MELODING	1719	0	28°8'18.39S	26°53'28.46E	Erven
5810	MELODING	1753	0	28°8'29.72S	26°53'35.46E	Erven
5811	MELODING	12892	0	28°9'15.4S	26°53'16.28E	Erven
5812	MELODING	5590	0	28°8'50.14S	26°53'5.51E	Erven
5813	MELODING	12864	0	28°9'13.66S	26°53'13.82E	Erven
5814	MELODING	14787	0	28°8'59.81S	26°52'47.47E	Erven
5815	MELODING	15043	0	28°9'14.03S	26°52'59E	Erven
5816	MELODING	12562	0	28°8'18.92S	26°53'20.07E	Erven
5817	MELODING	12560	0	28°8'18.19S	26°53'20.76E	Erven
5818	MELODING	12597	0	28°8'18.48S	26°53'19.5E	Erven
5819	MELODING	12595	0	28°8'19.03S	26°53'18.9E	Erven
5820	MELODING	4073	0	28°8'49.47S	26°53'31.78E	Erven
5821	MELODING	4082	0	28°8'47.06S	26°53'28.94E	Erven
5822	MELODING	6636	0	28°8'12.03S	26°53'19.76E	Erven
5823	MELODING	6634	0	28°8'12.49S	26°53'20.98E	Erven
5824	MELODING	6793	0	28°8'53.97S	26°53'0.01E	Erven
5825	MELODING	6791	0	28°8'54.73S	26°52'59.07E	Erven
5826	MELODING	6784	0	28°8'54.99S	26°53'0.38E	Erven
5827	MELODING	6782	0	28°8'54.18S	26°53'1.21E	Erven
5828	MELODING	6690	0	28°8'50.14S	26°53'1.44E	Erven
5829	MELODING	6688	0	28°8'50.01S	26°52'59.97E	Erven
5830	MELODING	6683	0	28°8'46.81S	26°52'57.46E	Erven
5831	MELODING	6681	0	28°8'45.7S	26°52'57.39E	Erven
5832	MELODING	6764	0	28°8'42.21S	26°52'58E	Erven
5833	MELODING	6762	0	28°8'41.39S	26°52'58.97E	Erven
5834	MELODING	6755	0	28°8'38.63S	26°53'2E	Erven
5835	MELODING	6753	0	28°8'37.82S	26°53'2.86E	Erven
5836	MELODING	6730	0	28°8'37.63S	26°52'59.33E	Erven
5837	MELODING	6728	0	28°8'36.8S	26°53'0.22E	Erven
5838	MELODING	6721	0	28°8'34S	26°53'1.65E	Erven
5839	MELODING	6673	0	28°8'35.77S	26°52'57.73E	Erven
5840	MELODING	6908	0	28°8'50.44S	26°52'45.21E	Erven
5841	MELODING	6906	0	28°8'49.71S	26°52'44.26E	Erven
5842	MELODING	6901	0	28°8'47.04S	26°52'44.06E	Erven
5843	MELODING	6899	0	28°8'47.05S	26°52'43.03E	Erven
5844	MELODING	6896	0	28°8'48.37S	26°52'45.06E	Erven
5845	MELODING	6875	0	28°8'52.76S	26°52'51.65E	Erven
5846	MELODING	6873	0	28°8'51.89S	26°52'50.69E	Erven
5847	MELODING	6871	0	28°8'51.14S	26°52'49.75E	Erven
5848	MELODING	6866	0	28°8'49.22S	26°52'47.5E	Erven

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5849	MELODING	6864	0	28°8'48.44S	26°52'46.58E	Erven
5850	MELODING	6841	0	28°8'46.74S	26°52'48.42E	Erven
5851	MELODING	6839	0	28°8'46S	26°52'47.56E	Erven
5852	MELODING	6832	0	28°8'47.42S	26°52'51.39E	Erven
5853	MELODING	6830	0	28°8'45.84S	26°52'51.09E	Erven
5854	MELODING	6807	0	28°8'45.42S	26°52'45.49E	Erven
5855	MELODING	6805	0	28°8'45.19S	26°52'46.56E	Erven
5856	MELODING	6798	0	28°8'42.37S	26°52'49.48E	Erven
5857	MELODING	6796	0	28°8'41.6S	26°52'50.37E	Erven
5858	MELODING	3819	0	28°8'27.31S	26°53'58.88E	Erven
5859	MELODING	3807	0	28°8'33.62S	26°54'3.22E	Erven
5860	MELODING	2259	0	28°8'32.29S	26°54'2.99E	Erven
5861	MELODING	2276	0	28°8'29.66S	26°54'4.17E	Erven
5862	MELODING	2207	0	28°8'34.84S	26°53'59.98E	Erven
5863	MELODING	2380	0	28°8'38.44S	26°53'58.43E	Erven
5864	MELODING	2423	0	28°8'38.47S	26°53'54.84E	Erven
5865	MELODING	2421	0	28°8'39.08S	26°53'54.32E	Erven
5866	MELODING	2329	0	28°8'36.42S	26°53'51.96E	Erven
5867	MELODING	2323	0	28°8'38.36S	26°53'50.46E	Erven
5868	MELODING	2316	0	28°8'40.46S	26°53'51.61E	Erven
5869	MELODING	2314	0	28°8'40.9S	26°53'52.34E	Erven
5870	MELODING	3085	0	28°8'37.67S	26°53'46.14E	Erven
5871	MELODING	3083	0	28°8'38.16S	26°53'46.84E	Erven
5872	MELODING	2582	0	28°8'38.08S	26°53'47.96E	Erven
5873	MELODING	2580	0	28°8'37.63S	26°53'47.24E	Erven
5874	MELODING	2553	0	28°8'31.45S	26°53'40.75E	Erven
5875	MELODING	2549	0	28°8'30.96S	26°53'38.93E	Erven
5876	MELODING	12154	0	28°8'31.34S	26°53'44.58E	Erven
5877	MELODING	12198	0	28°8'30.27S	26°53'51.74E	Erven
5878	MELODING	12055	0	28°8'23.28S	26°53'48.13E	Erven
5879	MELODING	12053	0	28°8'23.05S	26°53'47.34E	Erven
5880	MELODING	12048	0	28°8'22.37S	26°53'45.33E	Erven
5881	MELODING	12046	0	28°8'22.1S	26°53'44.46E	Erven
5882	MELODING	12069	0	28°8'25.11S	26°53'54.13E	Erven
5883	MELODING	5865	0	28°8'30.03S	26°53'7.46E	Erven
5884	MELODING	5789	0	28°8'29.39S	26°53'7.02E	Erven
5885	MELODING	5831	0	28°8'38.6S	26°53'11.85E	Erven
5886	MELODING	14979	0	28°9'8.8S	26°53'3.37E	Erven
5887	MELODING	6560	0	28°9'2.77S	26°53'6.85E	Erven
5888	MELODING	6119	0	28°8'38.6S	26°53'5.22E	Erven
5889	MELODING	6179	0	28°8'39S	26°53'3.77E	Erven
5890	MELODING	6248	0	28°8'38.72S	26°53'6.61E	Erven
5891	MELODING	6256	0	28°8'41.69S	26°53'6.91E	Erven
5892	MELODING	5610	0	28°8'54.39S	26°53'7.16E	Erven
5893	MELODING	5600	0	28°8'53.66S	26°53'7.37E	Erven
5894	MELODING	5731	0	28°8'51.39S	26°53'7.31E	Erven
5895	MELODING	5724	0	28°8'49.75S	26°53'7.05E	Erven
5896	MELODING	5648	0	28°8'48.79S	26°53'12.19E	Erven
5897	MELODING	5470	0	28°8'48.78S	26°53'15.22E	Erven
5898	MELODING	5512	0	28°8'48.9S	26°53'16.59E	Erven
5899	MELODING	5548	0	28°8'49.03S	26°53'20.13E	Erven
5900	MELODING	4308	0	28°8'56.17S	26°53'18.59E	Erven
5901	MELODING	4306	0	28°8'56.92S	26°53'18.77E	Erven
5902	MELODING	4491	0	28°8'58.66S	26°53'24.68E	Erven
5903	MELODING	4502	0	28°8'58.78S	26°53'23.56E	Erven
5904	MELODING	4252	0	28°8'53.37S	26°53'29.44E	Erven
5905	MELODING	4200	0	28°8'51.66S	26°53'30.12E	Erven
5906	MELODING	4186	0	28°8'48.52S	26°53'28.04E	Erven
5907	MELODING	4184	0	28°8'49.04S	26°53'28.67E	Erven
5908	MELODING	4798	0	28°9'8.71S	26°53'28.65E	Erven

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5909	MELODING	4796	0	28°9'9.17S	26°53'29.38E	Erven
5910	MELODING	4733	0	28°9'5.15S	26°53'29.35E	Erven
5911	MELODING	4731	0	28°9'5.59S	26°53'30.08E	Erven
5912	MELODING	4713	0	28°9'4.39S	26°53'29.43E	Erven
5913	MELODING	11785	0	28°8'18.42S	26°53'39.05E	Erven
5914	MELODING	2874	0	28°8'34.87S	26°53'27.09E	Erven
5915	MELODING	2627	0	28°8'25.14S	26°53'18.81E	Erven
5916	MELODING	2589	0	28°8'23.43S	26°53'18.05E	Erven
5917	MELODING	12568	0	28°8'20.63S	26°53'18.15E	Erven
5918	MELODING	2012	0	28°8'19.13S	26°53'26.36E	Erven
5919	MELODING	1975	0	28°8'19.25S	26°53'27.46E	Erven
5920	MELODING	1635	0	28°8'32.22S	26°53'36.36E	Erven
5921	MELODING	1626	0	28°8'28.79S	26°53'37.73E	Erven
5922	MELODING	12433	0	28°8'24.58S	26°53'14.05E	Erven
5923	MELODING	12431	0	28°8'24.04S	26°53'13.34E	Erven
5924	MELODING	12425	0	28°8'22.33S	26°53'11.32E	Erven
5925	MELODING	12423	0	28°8'21.78S	26°53'10.69E	Erven
5926	MELODING	22265	13	28°8'26.49S	26°53'41.64E	Erven
5927	MELODING	22265	11	28°8'26.16S	26°53'42.39E	Erven
5928	MELODING	22265	4	28°8'24.7S	26°53'42.76E	Erven
5929	MELODING	22265	2	28°8'24.44S	26°53'42.19E	Erven
5930	VENTERSBURG	12434	72	28°8'23.97S	26°53'10.97E	Erven
5931	VENTERSBURG	12434	67	28°8'25.5S	26°53'10.42E	Erven
5932	VENTERSBURG	12434	65	28°8'24.73S	26°53'11.15E	Erven
5933	VENTERSBURG	12434	63	28°8'25.19S	26°53'12.41E	Erven
5934	VENTERSBURG	12434	42	28°8'25.22S	26°53'8.15E	Erven
5935	VENTERSBURG	12434	40	28°8'26.32S	26°53'8.51E	Erven
5936	VENTERSBURG	12434	38	28°8'26.93S	26°53'8.15E	Erven
5937	VENTERSBURG	12434	33	28°8'27.88S	26°53'10.07E	Erven
5938	VENTERSBURG	12434	31	28°8'27.37S	26°53'10.99E	Erven
5939	VENTERSBURG	12434	8	28°8'24.52S	26°53'6.91E	Erven
5940	VENTERSBURG	12434	6	28°8'25.48S	26°53'6.9E	Erven
5941	MELODING	2517	0	28°8'35.27S	26°53'47.66E	Erven
5942	MELODING	2940	0	28°8'34.74S	26°53'31.05E	Erven
5943	MELODING	2104	0	28°8'23.19S	26°53'21.89E	Erven
5944	MELODING	2107	0	28°8'24S	26°53'22.84E	Erven
5945	MELODING	2108	0	28°8'24.27S	26°53'23.15E	Erven
5946	MELODING	2686	0	28°8'28.1S	26°53'21.01E	Erven
5947	MELODING	2687	0	28°8'28.39S	26°53'20.7E	Erven
5948	MELODING	2252	0	28°8'29.95S	26°54'4.81E	Erven
5949	MELODING	2254	0	28°8'30.59S	26°54'4.29E	Erven
5950	MELODING	1859	0	28°8'26.51S	26°53'22.03E	Erven
5951	MELODING	1860	0	28°8'26.21S	26°53'21.72E	Erven
5952	MELODING	13041	0	28°9'14.96S	26°53'23.35E	Erven
5953	MELODING	13043	0	28°9'14.32S	26°53'23.86E	Erven
5954	MELODING	12587	0	28°8'21.22S	26°53'16.59E	Erven
5955	MELODING	12590	0	28°8'20.37S	26°53'17.51E	Erven
5956	MELODING	12165	0	28°8'27.2S	26°53'44.85E	Erven
5957	MELODING	12166	0	28°8'27.66S	26°53'44.66E	Erven
5958	MELODING	6168	0	28°8'42.02S	26°53'0.57E	Erven
5959	MELODING	6169	0	28°8'41.75S	26°53'0.88E	Erven
5960	MELODING	6183	0	28°8'37.81S	26°53'5.16E	Erven
5961	MELODING	5518	0	28°8'47.18S	26°53'18.61E	Erven
5962	MELODING	5738	0	28°8'52.58S	26°53'7.95E	Erven
5963	MELODING	5739	0	28°8'52.3S	26°53'7.63E	Erven
5964	MELODING	4409	0	28°9'1.08S	26°53'26.24E	Erven
5965	MELODING	4410	0	28°9'0.8S	26°53'26.54E	Erven
5966	MELODING	3386	0	28°8'49.19S	26°53'39.37E	Erven
5967	MELODING	3389	0	28°8'43.8S	26°53'39.44E	Erven
5968	MELODING	3831	0	28°8'31.94S	26°54'0.14E	Erven

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5969	MELODING	2945	0	28°8'35.72S	26°53'33.38E	Erven
5970	MELODING	2962	0	28°8'39.07S	26°53'30.14E	Erven
5971	MELODING	2963	0	28°8'38.7S	26°53'30.45E	Erven
5972	MELODING	2520	0	28°8'35.62S	26°53'48.4E	Erven
5973	MELODING	2523	0	28°8'36.83S	26°53'49.22E	Erven
5974	MELODING	3120	0	28°8'41.38S	26°53'33.13E	Erven
5975	MELODING	3121	0	28°8'41.66S	26°53'32.82E	Erven
5976	MELODING	3137	0	28°8'46S	26°53'32.51E	Erven
5977	MELODING	3564	0	28°8'45.98S	26°53'45.22E	Erven
5978	MELODING	3565	0	28°8'46.3S	26°53'44.96E	Erven
5979	MELODING	2695	0	28°8'30.67S	26°53'18.22E	Erven
5980	MELODING	2696	0	28°8'30.95S	26°53'17.91E	Erven
5981	MELODING	1867	0	28°8'24.2S	26°53'19.38E	Erven
5982	MELODING	1870	0	28°8'23.72S	26°53'19.88E	Erven
5983	MELODING	13052	0	28°9'14.4S	26°53'22.46E	Erven
5984	MELODING	13053	0	28°9'14.71S	26°53'22.21E	Erven
5985	MELODING	13066	0	28°9'16.24S	26°53'20.08E	Erven
5986	MELODING	13067	0	28°9'15.93S	26°53'20.33E	Erven
5987	MELODING	13071	0	28°9'14.66S	26°53'21.35E	Erven
5988	MELODING	12188	0	28°8'29.41S	26°53'46.19E	Erven
5989	MELODING	12189	0	28°8'29.2S	26°53'45.52E	Erven
5990	MELODING	5760	0	28°8'53.33S	26°53'12.01E	Erven
5991	MELODING	6188	0	28°8'39.39S	26°53'7E	Erven
5992	MELODING	5320	0	28°8'43.11S	26°53'24.64E	Erven
5993	MELODING	5321	0	28°8'42.84S	26°53'24.33E	Erven
5994	MELODING	3835	0	28°8'33.46S	26°54'0.52E	Erven
5995	MELODING	3838	0	28°8'34.57S	26°54'0.99E	Erven
5996	MELODING	4438	0	28°8'56.36S	26°53'24.76E	Erven
5997	MELODING	4439	0	28°8'56.64S	26°53'24.45E	Erven
5998	MELODING	3411	0	28°8'43.42S	26°53'37.42E	Erven
5999	MELODING	3412	0	28°8'43.7S	26°53'37.75E	Erven
6000	MELODING	2541	0	28°8'35.11S	26°53'44.86E	Erven
6001	MELODING	2544	0	28°8'34.72S	26°53'43.62E	Erven
6002	MELODING	2981	0	28°8'33.21S	26°53'32.77E	Erven
6003	MELODING	2982	0	28°8'33.87S	26°53'33.52E	Erven
6004	MELODING	3570	0	28°8'47.89S	26°53'43.69E	Erven
6005	MELODING	3571	0	28°8'48.21S	26°53'43.44E	Erven
6006	MELODING	3586	0	28°8'47.83S	26°53'42.84E	Erven
6007	MELODING	3589	0	28°8'46.88S	26°53'43.61E	Erven
6008	MELODING	3141	0	28°8'47.08S	26°53'33.78E	Erven
6009	MELODING	3142	0	28°8'47.35S	26°53'34.1E	Erven
6010	MELODING	2280	0	28°8'34.01S	26°53'58.22E	Erven
6011	MELODING	2281	0	28°8'34.39S	26°53'58.32E	Erven
6012	MELODING	2719	0	28°8'29.39S	26°53'13.09E	Erven
6013	MELODING	1893	0	28°8'26.74S	26°53'28.68E	Erven
6014	MELODING	1894	0	28°8'27.01S	26°53'29E	Erven
6015	MELODING	12618	0	28°9'3.12S	26°53'9.48E	Erven
6016	MELODING	12619	0	28°9'3.4S	26°53'9.18E	Erven
6017	MELODING	6209	0	28°8'46.08S	26°53'1.54E	Erven
6018	MELODING	6210	0	28°8'46.47S	26°53'1.55E	Erven
6019	MELODING	5761	0	28°8'53.04S	26°53'12.32E	Erven
6020	MELODING	5779	0	28°8'55.33S	26°53'12.38E	Erven
6021	MELODING	5780	0	28°8'55.04S	26°53'12.7E	Erven
6022	MELODING	4452	0	28°9'0.71S	26°53'22E	Erven
6023	MELODING	4453	0	28°9'0.98S	26°53'22.32E	Erven
6024	MELODING	2986	0	28°8'34.43S	26°53'35.22E	Erven
6025	MELODING	2987	0	28°8'34.65S	26°53'35.6E	Erven
6026	MELODING	3429	0	28°8'44.45S	26°53'37.56E	Erven
6027	MELODING	3430	0	28°8'44.16S	26°53'37.24E	Erven
6028	MELODING	4188	0	28°8'47.87S	26°53'27.6E	Erven

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6029	MELODING	4191	0	28°8'49.14S	26°53'27.47E	Erven
6030	MELODING	3590	0	28°8'46.55S	26°53'43.86E	Erven
6031	MELODING	3591	0	28°8'46.24S	26°53'44.12E	Erven
6032	MELODING	2721	0	28°8'29.94S	26°53'13.73E	Erven
6033	MELODING	2724	0	28°8'30.75S	26°53'14.67E	Erven
6034	MELODING	2738	0	28°8'28.5S	26°53'19.56E	Erven
6035	MELODING	2739	0	28°8'28.22S	26°53'19.86E	Erven
6036	MELODING	2294	0	28°8'39.21S	26°53'58.84E	Erven
6037	MELODING	2295	0	28°8'39.55S	26°53'58.49E	Erven
6038	MELODING	12633	0	28°9'7.66S	26°53'4.97E	Erven
6039	MELODING	12634	0	28°9'7.96S	26°53'5.44E	Erven
6040	MELODING	12652	0	28°9'12.93S	26°53'11.24E	Erven
6041	MELODING	6220	0	28°8'47.65S	26°53'0.84E	Erven
6042	MELODING	6221	0	28°8'47.26S	26°53'0.84E	Erven
6043	MELODING	5793	0	28°8'29.34S	26°53'8.97E	Erven
6044	MELODING	4457	0	28°9'2.09S	26°53'23.6E	Erven
6045	MELODING	4474	0	28°8'56.47S	26°53'23.62E	Erven
6046	MELODING	4475	0	28°8'56.19S	26°53'23.92E	Erven
6047	MELODING	3448	0	28°8'44.65S	26°53'36.21E	Erven
6048	MELODING	4031	0	28°8'56.28S	26°53'37.11E	Erven
6049	MELODING	4642	0	28°9'7.32S	26°53'24.93E	Erven
6050	MELODING	4643	0	28°9'7.7S	26°53'24.99E	Erven
6051	MELODING	3607	0	28°8'47.58S	26°53'50.85E	Erven
6052	MELODING	3608	0	28°8'48.09S	26°53'50.44E	Erven
6053	MELODING	4208	0	28°8'53.74S	26°53'32.86E	Erven
6054	MELODING	4209	0	28°8'54S	26°53'33.17E	Erven
6055	MELODING	3177	0	28°8'46.2S	26°53'31.69E	Erven
6056	MELODING	3178	0	28°8'45.92S	26°53'31.37E	Erven
6057	MELODING	3181	0	28°8'45.11S	26°53'30.42E	Erven
6058	MELODING	2747	0	28°8'31.24S	26°53'19.42E	Erven
6059	MELODING	2748	0	28°8'30.96S	26°53'19.73E	Erven
6060	MELODING	1921	0	28°8'21.22S	26°53'30.8E	Erven
6061	MELODING	1922	0	28°8'22.07S	26°53'30.58E	Erven
6062	MELODING	12662	0	28°9'15.64S	26°53'14.78E	Erven
6063	MELODING	12663	0	28°9'15.87S	26°53'15.15E	Erven
6064	MELODING	6246	0	28°8'39.23S	26°53'6.17E	Erven
6065	MELODING	6249	0	28°8'39.5S	26°53'8.43E	Erven
6066	MELODING	5390	0	28°8'48.96S	26°53'21.99E	Erven
6067	MELODING	5391	0	28°8'49.24S	26°53'21.68E	Erven
6068	MELODING	4054	0	28°8'55.68S	26°53'36.84E	Erven
6069	MELODING	4057	0	28°8'54.24S	26°53'36.98E	Erven
6070	MELODING	5550	0	28°8'49.53S	26°53'19.71E	Erven
6071	MELODING	5551	0	28°8'49.82S	26°53'19.4E	Erven
6072	MELODING	4228	0	28°8'51.77S	26°53'29.49E	Erven
6073	MELODING	4667	0	28°9'8.96S	26°53'24.46E	Erven
6074	MELODING	3624	0	28°8'47.85S	26°53'45.97E	Erven
6075	MELODING	3625	0	28°8'48.16S	26°53'45.72E	Erven
6076	MELODING	2759	0	28°8'27.84S	26°53'23.1E	Erven
6077	MELODING	2760	0	28°8'27.6S	26°53'23.5E	Erven
6078	MELODING	3195	0	28°8'38.88S	26°53'36.3E	Erven
6079	MELODING	3198	0	28°8'37.87S	26°53'37.14E	Erven
6080	MELODING	3199	0	28°8'37.55S	26°53'37.39E	Erven
6081	MELODING	2339	0	28°8'33.72S	26°53'53.98E	Erven
6082	MELODING	2340	0	28°8'33.64S	26°53'54.41E	Erven
6083	MELODING	1937	0	28°8'23.72S	26°53'32.61E	Erven
6084	MELODING	12671	0	28°9'15.67S	26°53'18.28E	Erven
6085	MELODING	12672	0	28°9'15.36S	26°53'18.54E	Erven
6086	MELODING	12685	0	28°9'14.46S	26°53'20.16E	Erven
6087	MELODING	12686	0	28°9'14.78S	26°53'19.91E	Erven
6088	MELODING	6259	0	28°8'42.49S	26°53'6.19E	Erven

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6089	MELODING	6260	0	28°8'42.76S	26°53'5.88E	Erven
6090	MELODING	5395	0	28°8'50.36S	26°53'20.46E	Erven
6091	MELODING	5830	0	28°8'38.83S	26°53'11.71E	Erven
6092	MELODING	5833	0	28°8'37.98S	26°53'12.62E	Erven
6093	MELODING	4511	0	28°8'56.19S	26°53'26.46E	Erven
6094	MELODING	5400	0	28°8'51.77S	26°53'18.94E	Erven
6095	MELODING	5565	0	28°8'47.03S	26°53'21.42E	Erven
6096	MELODING	5991	0	28°8'44.45S	26°53'6.58E	Erven
6097	MELODING	4676	0	28°9'5.54S	26°53'24.24E	Erven
6098	MELODING	4677	0	28°9'5.24S	26°53'24.56E	Erven
6099	MELODING	5568	0	28°8'46.18S	26°53'22.34E	Erven
6100	MELODING	5569	0	28°8'45.9S	26°53'22.64E	Erven
6101	MELODING	4235	0	28°8'49.87S	26°53'27.28E	Erven
6102	MELODING	4240	0	28°8'50.03S	26°53'25.89E	Erven
6103	MELODING	3208	0	28°8'37.61S	26°53'40.55E	Erven
6104	MELODING	3209	0	28°8'37.93S	26°53'40.3E	Erven
6105	MELODING	3650	0	28°8'50.65S	26°53'42.83E	Erven
6106	MELODING	3651	0	28°8'50.33S	26°53'43.09E	Erven
6107	MELODING	2783	0	28°8'28.61S	26°53'23.31E	Erven
6108	MELODING	2786	0	28°8'29.45S	26°53'22.39E	Erven
6109	MELODING	1957	0	28°8'26.15S	26°53'30.64E	Erven
6110	MELODING	1958	0	28°8'26.43S	26°53'30.96E	Erven
6111	MELODING	1598	0	28°8'19.96S	26°53'38.1E	Erven
6112	MELODING	12688	0	28°9'15.41S	26°53'19.39E	Erven
6113	MELODING	12689	0	28°9'15.74S	26°53'19.14E	Erven
6114	MELODING	11783	0	28°8'18.09S	26°53'38.43E	Erven
6115	MELODING	11784	0	28°8'18.22S	26°53'38.85E	Erven
6116	MELODING	6276	0	28°8'43.44S	26°53'4.13E	Erven
6117	MELODING	6279	0	28°8'42.6S	26°53'5.04E	Erven
6118	MELODING	6280	0	28°8'42.32S	26°53'5.35E	Erven
6119	MELODING	5414	0	28°8'51.13S	26°53'14.21E	Erven
6120	MELODING	5415	0	28°8'51.41S	26°53'14.51E	Erven
6121	MELODING	6011	0	28°8'45.41S	26°53'4.53E	Erven
6122	MELODING	6012	0	28°8'45.13S	26°53'4.83E	Erven
6123	MELODING	6452	0	28°8'59.49S	26°53'0.93E	Erven
6124	MELODING	6453	0	28°8'59.77S	26°53'1.26E	Erven
6125	MELODING	6456	0	28°9'0.58S	26°53'2.21E	Erven
6126	MELODING	5591	0	28°8'50.53S	26°53'5.52E	Erven
6127	MELODING	5592	0	28°8'50.92S	26°53'5.53E	Erven
6128	MELODING	4693	0	28°9'4.13S	26°53'35.85E	Erven
6129	MELODING	4694	0	28°9'4.6S	26°53'33.21E	Erven
6130	MELODING	3658	0	28°8'48.1S	26°53'44.86E	Erven
6131	MELODING	3661	0	28°8'47.15S	26°53'45.63E	Erven
6132	MELODING	4258	0	28°8'54.9S	26°53'31.58E	Erven
6133	MELODING	4259	0	28°8'55.18S	26°53'31.89E	Erven
6134	MELODING	3233	0	28°8'38.12S	26°53'42.39E	Erven
6135	MELODING	3234	0	28°8'38.43S	26°53'42.15E	Erven
6136	MELODING	2368	0	28°8'33.78S	26°53'57.41E	Erven
6137	MELODING	2371	0	28°8'34.92S	26°53'57.7E	Erven
6138	MELODING	2810	0	28°8'32.33S	26°53'21.81E	Erven
6139	MELODING	2811	0	28°8'32.61S	26°53'21.5E	Erven
6140	MELODING	12704	0	28°9'3.53S	26°53'12.46E	Erven
6141	MELODING	12705	0	28°9'3.93S	26°53'12.47E	Erven
6142	MELODING	6293	0	28°8'53.78S	26°53'4.82E	Erven
6143	MELODING	6294	0	28°8'54.05S	26°53'5.14E	Erven
6144	MELODING	5850	0	28°8'33.14S	26°53'12.99E	Erven
6145	MELODING	5853	0	28°8'32.33S	26°53'12.04E	Erven
6146	MELODING	5868	0	28°8'30.07S	26°53'6.2E	Erven
6147	MELODING	5869	0	28°8'29.66S	26°53'6.19E	Erven
6148	MELODING	6028	0	28°8'40.64S	26°53'9.72E	Erven

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6149	MELODING	6029	0	28°8'40.36S	26°53'10.02E	Erven
6150	MELODING	4702	0	28°9'4.67S	26°53'35.42E	Erven
6151	MELODING	5594	0	28°8'51.85S	26°53'5.56E	Erven
6152	MELODING	4266	0	28°8'55.1S	26°53'30.75E	Erven
6153	MELODING	4267	0	28°8'54.84S	26°53'30.44E	Erven
6154	MELODING	4281	0	28°8'51.04S	26°53'26.01E	Erven
6155	MELODING	4282	0	28°8'50.77S	26°53'25.69E	Erven
6156	MELODING	3680	0	28°8'52.92S	26°53'44.16E	Erven
6157	MELODING	3681	0	28°8'53.24S	26°53'43.9E	Erven
6158	MELODING	2817	0	28°8'33.58S	26°53'19.44E	Erven
6159	MELODING	2818	0	28°8'33.28S	26°53'19.75E	Erven
6160	MELODING	3252	0	28°8'39.01S	26°53'40.79E	Erven
6161	MELODING	3253	0	28°8'38.69S	26°53'41.03E	Erven
6162	MELODING	3256	0	28°8'37.74S	26°53'41.8E	Erven
6163	MELODING	2392	0	28°8'41.63S	26°53'55.43E	Erven
6164	MELODING	2393	0	28°8'41.27S	26°53'54.86E	Erven
6165	MELODING	1613	0	28°8'23.97S	26°53'39.86E	Erven
6166	MELODING	12715	0	28°9'1.41S	26°53'13E	Erven
6167	MELODING	12719	0	28°9'4.3S	26°53'10.77E	Erven
6168	MELODING	12733	0	28°9'5.33S	26°53'11.21E	Erven
6169	MELODING	12734	0	28°9'5.22S	26°53'11.67E	Erven
6170	MELODING	6307	0	28°8'57.57S	26°53'9.26E	Erven
6171	MELODING	6310	0	28°8'58.04S	26°53'8.75E	Erven
6172	MELODING	6324	0	28°8'54.25S	26°53'4.31E	Erven
6173	MELODING	6325	0	28°8'53.98S	26°53'4E	Erven
6174	MELODING	12913	0	28°9'12.13S	26°53'22.02E	Erven
6175	MELODING	12914	0	28°9'12.46S	26°53'21.75E	Erven
6176	MELODING	12931	0	28°9'10.79S	26°53'22.52E	Erven
6177	MELODING	12932	0	28°9'11.11S	26°53'22.93E	Erven
6178	MELODING	12475	0	28°8'19.38S	26°53'14.28E	Erven
6179	MELODING	12478	0	28°8'20.22S	26°53'13.37E	Erven
6180	MELODING	6482	0	28°8'59.13S	26°52'59.46E	Erven
6181	MELODING	6483	0	28°8'58.87S	26°52'59.15E	Erven
6182	MELODING	5614	0	28°8'53.25S	26°53'6.1E	Erven
6183	MELODING	5615	0	28°8'52.97S	26°53'5.77E	Erven
6184	MELODING	6051	0	28°8'32.49S	26°53'6.18E	Erven
6185	MELODING	6054	0	28°8'31.32S	26°53'6.19E	Erven
6186	MELODING	4715	0	28°9'4.78S	26°53'30.35E	Erven
6187	MELODING	4716	0	28°9'5S	26°53'30.71E	Erven
6188	MELODING	4285	0	28°8'50.92S	26°53'24.27E	Erven
6189	MELODING	4286	0	28°8'51.2S	26°53'24.61E	Erven
6190	MELODING	3258	0	28°8'37.59S	26°53'44.21E	Erven
6191	MELODING	3261	0	28°8'38.62S	26°53'44.24E	Erven
6192	MELODING	3262	0	28°8'38.94S	26°53'43.99E	Erven
6193	MELODING	3275	0	28°8'42.42S	26°53'40.34E	Erven
6194	MELODING	3276	0	28°8'42.06S	26°53'40.59E	Erven
6195	MELODING	2837	0	28°8'30.37S	26°53'26.48E	Erven
6196	MELODING	2838	0	28°8'30.65S	26°53'26.17E	Erven
6197	MELODING	2007	0	28°8'20.4S	26°53'28.19E	Erven
6198	MELODING	2008	0	28°8'20.18S	26°53'27.82E	Erven
6199	MELODING	1622	0	28°8'27.27S	26°53'38.51E	Erven
6200	MELODING	12741	0	28°9'7.26S	26°53'12.58E	Erven
6201	MELODING	12934	0	28°9'11.56S	26°53'23.65E	Erven
6202	MELODING	12935	0	28°9'11.79S	26°53'24.01E	Erven
6203	MELODING	12490	0	28°8'18.89S	26°53'13.72E	Erven
6204	MELODING	12939	0	28°9'12.69S	26°53'25.45E	Erven
6205	MELODING	6059	0	28°8'31.02S	26°53'4.97E	Erven
6206	MELODING	6060	0	28°8'31.41S	26°53'4.97E	Erven
6207	MELODING	6504	0	28°9'3.93S	26°53'3.49E	Erven
6208	MELODING	6505	0	28°9'4.24S	26°53'3.83E	Erven

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6209	MELODING	5633	0	28°8'46.34S	26°53'6.36E	Erven
6210	MELODING	5639	0	28°8'46.27S	26°53'9.55E	Erven
6211	MELODING	4312	0	28°8'54.99S	26°53'19.97E	Erven
6212	MELODING	4723	0	28°9'6.6S	26°53'33.21E	Erven
6213	MELODING	3716	0	28°8'49.72S	26°53'48.96E	Erven
6214	MELODING	3717	0	28°8'50.04S	26°53'48.71E	Erven
6215	MELODING	3731	0	28°8'54.49S	26°53'45.14E	Erven
6216	MELODING	2851	0	28°8'34.3S	26°53'22.21E	Erven
6217	MELODING	3286	0	28°8'38.88S	26°53'43.13E	Erven
6218	MELODING	3287	0	28°8'38.56S	26°53'43.39E	Erven
6219	MELODING	2424	0	28°8'38.05S	26°53'55.17E	Erven
6220	MELODING	2425	0	28°8'37.73S	26°53'55.43E	Erven
6221	MELODING	1624	0	28°8'27.99S	26°53'38.2E	Erven
6222	MELODING	2031	0	28°8'20.69S	26°53'25.83E	Erven
6223	MELODING	2032	0	28°8'20.42S	26°53'25.52E	Erven
6224	MELODING	12751	0	28°9'10.04S	26°53'15.92E	Erven
6225	MELODING	12752	0	28°9'10.31S	26°53'16.24E	Erven
6226	MELODING	12770	0	28°9'8.53S	26°53'13.09E	Erven
6227	MELODING	12956	0	28°9'17.87S	26°53'27.77E	Erven
6228	MELODING	12957	0	28°9'18.19S	26°53'27.51E	Erven
6229	MELODING	12078	0	28°8'26.98S	26°53'57.39E	Erven
6230	MELODING	12502	0	28°8'15.41S	26°53'17.52E	Erven
6231	MELODING	6512	0	28°9'3.03S	26°53'1.39E	Erven
6232	MELODING	6513	0	28°9'2.76S	26°53'1.07E	Erven
6233	MELODING	6516	0	28°9'1.94S	26°53'0.11E	Erven
6234	MELODING	12085	0	28°8'26.34S	26°53'56.92E	Erven
6235	MELODING	12086	0	28°8'22.83S	26°53'43.64E	Erven
6236	MELODING	6088	0	28°8'29.96S	26°53'1.36E	Erven
6237	MELODING	6089	0	28°8'29.68S	26°53'1.66E	Erven
6238	MELODING	4746	0	28°9'8.28S	26°53'34.11E	Erven
6239	MELODING	5655	0	28°8'48.09S	26°53'10.62E	Erven
6240	MELODING	4324	0	28°8'51.63S	26°53'23.64E	Erven
6241	MELODING	4325	0	28°8'51.35S	26°53'23.94E	Erven
6242	MELODING	3298	0	28°8'40.98S	26°53'44.6E	Erven
6243	MELODING	3299	0	28°8'41.29S	26°53'44.34E	Erven
6244	MELODING	3738	0	28°8'56.64S	26°53'43.28E	Erven
6245	MELODING	3741	0	28°8'56.48S	26°53'42.52E	Erven
6246	MELODING	2873	0	28°8'31.17S	26°53'28.43E	Erven
6247	MELODING	2875	0	28°8'39.13S	26°53'26.09E	Erven
6248	MELODING	2044	0	28°8'21.54S	26°53'25.24E	Erven
6249	MELODING	2434	0	28°8'35.85S	26°53'55.54E	Erven
6250	MELODING	1631	0	28°8'30.56S	26°53'37.15E	Erven
6251	MELODING	1641	0	28°8'32.17S	26°53'34.27E	Erven
6252	MELODING	12784	0	28°9'8.15S	26°53'11.06E	Erven
6253	MELODING	12785	0	28°9'8.42S	26°53'11.38E	Erven
6254	MELODING	12799	0	28°9'12.29S	26°53'15.92E	Erven
6255	MELODING	12800	0	28°9'12.5S	26°53'16.29E	Erven
6256	MELODING	5949	0	28°8'36.27S	26°53'8.72E	Erven
6257	MELODING	6390	0	28°9'0.07S	26°53'5.84E	Erven
6258	MELODING	6391	0	28°8'59.8S	26°53'5.53E	Erven
6259	MELODING	5528	0	28°8'44.21S	26°53'21.93E	Erven
6260	MELODING	5529	0	28°8'43.93S	26°53'22.23E	Erven
6261	MELODING	14791	0	28°8'58.49S	26°52'48.9E	Erven
6262	MELODING	14792	0	28°8'58.14S	26°52'49.29E	Erven
6263	MELODING	14370	0	28°9'1.45S	26°52'32.73E	Erven
6264	MELODING	14371	0	28°9'1S	26°52'32.66E	Erven
6265	MELODING	12822	0	28°9'8.34S	26°53'10.24E	Erven
6266	MELODING	12823	0	28°9'8.07S	26°53'9.92E	Erven
6267	MELODING	12389	0	28°8'14.19S	26°53'20.94E	Erven
6268	MELODING	12390	0	28°8'13.97S	26°53'20.57E	Erven

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6269	MELODING	12404	0	28°8'15.92S	26°53'15.36E	Erven
6270	MELODING	12407	0	28°8'16.75S	26°53'14.44E	Erven
6271	MELODING	5971	0	28°8'37.71S	26°53'8.83E	Erven
6272	MELODING	5972	0	28°8'37.98S	26°53'9.15E	Erven
6273	MELODING	14808	0	28°9'3.45S	26°52'46.56E	Erven
6274	MELODING	14809	0	28°9'3.12S	26°52'46.92E	Erven
6275	MELODING	14823	0	28°9'2.16S	26°52'52.44E	Erven
6276	MELODING	14826	0	28°9'3.14S	26°52'51.38E	Erven
6277	MELODING	14827	0	28°9'3.47S	26°52'51.02E	Erven
6278	MELODING	14390	0	28°8'58.41S	26°52'31.12E	Erven
6279	MELODING	14391	0	28°8'58.48S	26°52'30.56E	Erven
6280	MELODING	12834	0	28°9'7.7S	26°53'7.89E	Erven
6281	MELODING	12835	0	28°9'7.96S	26°53'8.2E	Erven
6282	MELODING	12850	0	28°9'12.11S	26°53'13.06E	Erven
6283	MELODING	12416	0	28°8'19.38S	26°53'11.6E	Erven
6284	MELODING	12417	0	28°8'19.66S	26°53'11.29E	Erven
6285	MELODING	6429	0	28°9'1.52S	26°53'4.89E	Erven
6286	MELODING	6430	0	28°9'1.24S	26°53'4.57E	Erven
6287	MELODING	14833	0	28°9'5.44S	26°52'48.88E	Erven
6288	MELODING	14834	0	28°9'5.76S	26°52'48.53E	Erven
6289	MELODING	14416	0	28°9'2.28S	26°52'28.42E	Erven
6290	MELODING	14419	0	28°9'0.83S	26°52'28.2E	Erven
6291	MELODING	1693	0	28°8'21.92S	26°53'38.61E	Erven
6292	MELODING	1694	0	28°8'21.79S	26°53'38.18E	Erven
6293	MELODING	12854	0	28°9'13.2S	26°53'14.33E	Erven
6294	MELODING	14848	0	28°9'5.53S	26°52'47.51E	Erven
6295	MELODING	14431	0	28°9'3.4S	26°52'32.63E	Erven
6296	MELODING	14432	0	28°9'3.72S	26°52'32.99E	Erven
6297	MELODING	14863	0	28°9'3.03S	26°52'53.09E	Erven
6298	MELODING	1704	0	28°8'20.74S	26°53'34.57E	Erven
6299	MELODING	1707	0	28°8'20.2S	26°53'33.27E	Erven
6300	MELODING	2137	0	28°8'17.44S	26°53'23.07E	Erven
6301	MELODING	2138	0	28°8'17.11S	26°53'23.31E	Erven
6302	MELODING	12865	0	28°9'13.4S	26°53'13.5E	Erven
6303	MELODING	12882	0	28°9'8.7S	26°53'8.01E	Erven
6304	MELODING	12450	0	28°8'27.29S	26°53'2.75E	Erven
6305	MELODING	12453	0	28°8'27.23S	26°53'4.13E	Erven
6306	MELODING	12454	0	28°8'27.23S	26°53'4.57E	Erven
6307	MELODING	14877	0	28°9'7.7S	26°52'53.94E	Erven
6308	MELODING	14878	0	28°9'7.24S	26°52'53.56E	Erven
6309	MELODING	14443	0	28°9'2.91S	26°52'30.76E	Erven
6310	MELODING	14457	0	28°9'5.13S	26°52'31.47E	Erven
6311	MELODING	14458	0	28°9'5.44S	26°52'31.84E	Erven
6312	MELODING	2145	0	28°8'27.3S	26°54'1.04E	Erven
6313	MELODING	2148	0	28°8'27.7S	26°54'2.29E	Erven
6314	MELODING	1724	0	28°8'16.99S	26°53'26.73E	Erven
6315	MELODING	1725	0	28°8'16.67S	26°53'27.04E	Erven
6316	MELODING	1742	0	28°8'28.48S	26°53'36.76E	Erven
6317	MELODING	12467	0	28°8'17.13S	26°53'16.73E	Erven
6318	MELODING	12883	0	28°9'8.43S	26°53'7.7E	Erven
6319	MELODING	12898	0	28°9'13.46S	26°53'17.81E	Erven
6320	MELODING	12901	0	28°9'12.51S	26°53'18.57E	Erven
6321	MELODING	14888	0	28°9'6.48S	26°52'50.82E	Erven
6322	MELODING	14889	0	28°9'6.8S	26°52'51.19E	Erven
6323	MELODING	2996	0	28°8'37.77S	26°53'33.33E	Erven
6324	MELODING	2997	0	28°8'38.1S	26°53'33.1E	Erven
6325	MELODING	3001	0	28°8'39.43S	26°53'32.17E	Erven
6326	MELODING	1749	0	28°8'31.04S	26°53'35.69E	Erven
6327	MELODING	1750	0	28°8'30.79S	26°53'34.92E	Erven
6328	MELODING	12905	0	28°9'11.26S	26°53'19.25E	Erven

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6329	MELODING	12906	0	28°9'11.2S	26°53'19.68E	Erven
6330	MELODING	14905	0	28°9'7.7S	26°52'50.92E	Erven
6331	MELODING	3003	0	28°8'40.09S	26°53'31.71E	Erven
6332	MELODING	3004	0	28°8'40.35S	26°53'31.39E	Erven
6333	MELODING	3018	0	28°8'42.14S	26°53'26.94E	Erven
6334	MELODING	3021	0	28°8'41.32S	26°53'25.99E	Erven
6335	MELODING	3022	0	28°8'41.05S	26°53'25.67E	Erven
6336	MELODING	1765	0	28°8'25.33S	26°53'37.27E	Erven
6337	MELODING	1766	0	28°8'24.97S	26°53'37.42E	Erven
6338	MELODING	14480	0	28°9'8.41S	26°52'28.06E	Erven
6339	MELODING	14483	0	28°9'9.76S	26°52'28.26E	Erven
6340	MELODING	3453	0	28°8'46.05S	26°53'37.86E	Erven
6341	MELODING	3471	0	28°8'44.55S	26°53'35.05E	Erven
6342	MELODING	3472	0	28°8'44.27S	26°53'34.72E	Erven
6343	MELODING	3027	0	28°8'39.61S	26°53'23.98E	Erven
6344	MELODING	3030	0	28°8'38.8S	26°53'23.04E	Erven
6345	MELODING	3044	0	28°8'35.01S	26°53'18.6E	Erven
6346	MELODING	2605	0	28°8'27.8S	26°53'13.4E	Erven
6347	MELODING	2606	0	28°8'28.07S	26°53'13.09E	Erven
6348	MELODING	1781	0	28°8'25.72S	26°53'35.94E	Erven
6349	MELODING	1784	0	28°8'26.82S	26°53'35.49E	Erven
6350	MELODING	14918	0	28°9'11.14S	26°52'53.02E	Erven
6351	MELODING	14919	0	28°9'11.16S	26°52'53.9E	Erven
6352	MELODING	14932	0	28°9'9.04S	26°52'49.34E	Erven
6353	MELODING	14933	0	28°9'4.45S	26°52'56.53E	Erven
6354	MELODING	14936	0	28°9'5.66S	26°52'57.88E	Erven
6355	MELODING	4079	0	28°8'47.78S	26°53'30.12E	Erven
6356	MELODING	4083	0	28°8'46.51S	26°53'27.56E	Erven
6357	MELODING	3485	0	28°8'45.53S	26°53'34.61E	Erven
6358	MELODING	3486	0	28°8'45.81S	26°53'34.94E	Erven
6359	MELODING	2615	0	28°8'25.41S	26°53'14.99E	Erven
6360	MELODING	2618	0	28°8'24.58S	26°53'15.89E	Erven
6361	MELODING	3058	0	28°8'36.71S	26°53'21.64E	Erven
6362	MELODING	1797	0	28°8'28.52S	26°53'34E	Erven
6363	MELODING	14250	0	28°8'53.15S	26°52'43.44E	Erven
6364	MELODING	14253	0	28°8'54.17S	26°52'42.35E	Erven
6365	MELODING	14940	0	28°9'6.92S	26°52'59.36E	Erven
6366	MELODING	14941	0	28°9'7.24S	26°52'59.72E	Erven
6367	MELODING	4523	0	28°8'59.74S	26°53'26.17E	Erven
6368	MELODING	4524	0	28°9'0.02S	26°53'25.87E	Erven
6369	MELODING	3501	0	28°8'48.25S	26°53'36.74E	Erven
6370	MELODING	3502	0	28°8'47.98S	26°53'36.41E	Erven
6371	MELODING	4101	0	28°8'51.65S	26°53'21.97E	Erven
6372	MELODING	4102	0	28°8'51.93S	26°53'21.66E	Erven
6373	MELODING	3060	0	28°8'37.25S	26°53'22.28E	Erven
6374	MELODING	3075	0	28°8'41.4S	26°53'27.13E	Erven
6375	MELODING	3076	0	28°8'41.67S	26°53'27.45E	Erven
6376	MELODING	2639	0	28°8'28.46S	26°53'15.34E	Erven
6377	MELODING	2640	0	28°8'28.74S	26°53'15.04E	Erven
6378	MELODING	14262	0	28°8'57.11S	26°52'39.15E	Erven
6379	MELODING	14265	0	28°8'58.23S	26°52'38E	Erven
6380	MELODING	14697	0	28°9'1.8S	26°52'42.24E	Erven
6381	MELODING	14698	0	28°9'1.48S	26°52'42.59E	Erven
6382	MELODING	14508	0	28°9'10.39S	26°52'30.8E	Erven
6383	MELODING	14522	0	28°9'5.25S	26°52'35.13E	Erven
6384	MELODING	14525	0	28°9'4.27S	26°52'36.19E	Erven
6385	MELODING	5442	0	28°8'55.87S	26°53'10.22E	Erven
6386	MELODING	5448	0	28°8'42.32S	26°53'21.9E	Erven
6387	MELODING	4104	0	28°8'52.49S	26°53'21.05E	Erven
6388	MELODING	4549	0	28°9'1.52S	26°53'30.4E	Erven

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6389	MELODING	4550	0	28°9'1.74S	26°53'30.77E	Erven
6390	MELODING	3529	0	28°8'50.66S	26°53'49.55E	Erven
6391	MELODING	3530	0	28°8'50.98S	26°53'49.31E	Erven
6392	MELODING	14705	0	28°8'57.11S	26°52'47.35E	Erven
6393	MELODING	14706	0	28°8'57.44S	26°52'46.99E	Erven
6394	MELODING	14719	0	28°8'57.35S	26°52'50.07E	Erven
6395	MELODING	15139	0	28°9'16.02S	26°53'9.82E	Erven
6396	MELODING	14280	0	28°8'53.93S	26°52'41.34E	Erven
6397	MELODING	14281	0	28°8'53.61S	26°52'41.69E	Erven
6398	MELODING	14960	0	28°9'8.7S	26°52'57.18E	Erven
6399	MELODING	14961	0	28°9'8.35S	26°52'56.77E	Erven
6400	MELODING	14098	0	28°8'48.72S	26°52'38.8E	Erven
6401	MELODING	14101	0	28°8'49.71S	26°52'37.74E	Erven
6402	MELODING	5882	0	28°8'34.54S	26°53'13.04E	Erven
6403	MELODING	5883	0	28°8'34.81S	26°53'13.36E	Erven
6404	MELODING	4559	0	28°9'7.11S	26°53'36.39E	Erven
6405	MELODING	4560	0	28°9'7.42S	26°53'36.14E	Erven
6406	MELODING	4117	0	28°8'56.23S	26°53'16.97E	Erven
6407	MELODING	4120	0	28°8'56.92S	26°53'17.57E	Erven
6408	MELODING	3103	0	28°8'35.65S	26°53'37.24E	Erven
6409	MELODING	3104	0	28°8'35.99S	26°53'37.01E	Erven
6410	MELODING	3546	0	28°8'56.49S	26°53'44.89E	Erven
6411	MELODING	3547	0	28°8'56.81S	26°53'44.64E	Erven
6412	MELODING	15156	0	28°9'15.98S	26°53'8.77E	Erven
6413	MELODING	15159	0	28°9'15.28S	26°53'8.1E	Erven
6414	MELODING	14721	0	28°8'57.99S	26°52'50.81E	Erven
6415	MELODING	14722	0	28°8'58.3S	26°52'51.17E	Erven
6416	MELODING	14305	0	28°8'56.59S	26°52'41.49E	Erven
6417	MELODING	14308	0	28°8'55.61S	26°52'42.57E	Erven
6418	MELODING	14309	0	28°8'55.28S	26°52'42.92E	Erven
6419	MELODING	14529	0	28°9'4.76S	26°52'40.04E	Erven
6420	MELODING	14530	0	28°9'5.16S	26°52'39.24E	Erven
6421	MELODING	14545	0	28°9'7.5S	26°52'37.31E	Erven
6422	MELODING	5895	0	28°8'33.39S	26°53'10.64E	Erven
6423	MELODING	6335	0	28°8'56.52S	26°53'5.39E	Erven
6424	MELODING	6336	0	28°8'56.8S	26°53'5.71E	Erven
6425	MELODING	5474	0	28°8'50S	26°53'16.55E	Erven
6426	MELODING	5475	0	28°8'50.28S	26°53'16.86E	Erven
6427	MELODING	5909	0	28°8'34.9S	26°53'10.82E	Erven
6428	MELODING	4569	0	28°9'10.28S	26°53'33.84E	Erven
6429	MELODING	4583	0	28°9'13.06S	26°53'29.39E	Erven
6430	MELODING	4584	0	28°9'13.27S	26°53'29.92E	Erven
6431	MELODING	3560	0	28°8'44.69S	26°53'46.24E	Erven
6432	MELODING	3561	0	28°8'45.03S	26°53'45.98E	Erven
6433	MELODING	14736	0	28°9'13.75S	26°52'54.75E	Erven
6434	MELODING	14737	0	28°9'12.47S	26°52'56.35E	Erven
6435	MELODING	14321	0	28°9'2.42S	26°52'38.16E	Erven
6436	MELODING	14324	0	28°9'1.29S	26°52'39.44E	Erven
6437	MELODING	14551	0	28°9'10.9S	26°52'33.62E	Erven
6438	MELODING	14552	0	28°9'11.22S	26°52'33.27E	Erven
6439	MELODING	14984	0	28°9'10.09S	26°53'1.77E	Erven
6440	MELODING	14985	0	28°9'10.37S	26°53'1.46E	Erven
6441	MELODING	5917	0	28°8'36.72S	26°53'11.89E	Erven
6442	MELODING	5918	0	28°8'36.45S	26°53'11.58E	Erven
6443	MELODING	6356	0	28°8'57.27S	26°53'5.2E	Erven
6444	MELODING	6357	0	28°8'56.99S	26°53'4.88E	Erven
6445	MELODING	6360	0	28°8'56.17S	26°53'3.92E	Erven
6446	MELODING	5491	0	28°8'43.83S	26°53'23.37E	Erven
6447	MELODING	5492	0	28°8'44.1S	26°53'23.06E	Erven
6448	MELODING	4163	0	28°8'55.16S	26°53'35.31E	Erven

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6449	MELODING	4164	0	28°8'54.66S	26°53'35.19E	Erven
6450	MELODING	4614	0	28°9'6.1S	26°53'29.28E	Erven
6451	MELODING	14753	0	28°9'8.07S	26°53'1.18E	Erven
6452	MELODING	14756	0	28°9'9.06S	26°53'0.12E	Erven
6453	MELODING	14770	0	28°9'0.37S	26°52'48.13E	Erven
6454	MELODING	14771	0	28°9'0.7S	26°52'47.77E	Erven
6455	MELODING	14332	0	28°9'1.52S	26°52'40.46E	Erven
6456	MELODING	14333	0	28°9'1.85S	26°52'40.1E	Erven
6457	MELODING	6364	0	28°8'55.08S	26°53'2.65E	Erven
6458	MELODING	6365	0	28°8'54.78S	26°53'2.31E	Erven
6459	MELODING	6383	0	28°9'0.15S	26°53'6.99E	Erven
6460	MELODING	5942	0	28°8'38.18S	26°53'10.98E	Erven
6461	MELODING	5943	0	28°8'37.9S	26°53'10.62E	Erven
6462	MELODING	4631	0	28°9'6.63S	26°53'28.86E	Erven
6463	MELODING	4632	0	28°9'6.41S	26°53'28.5E	Erven
6464	MELODING	14347	0	28°9'0.29S	26°52'35E	Erven
6465	MELODING	14348	0	28°8'59.76S	26°52'34.93E	Erven
6466	MELODING	14782	0	28°9'1.44S	26°52'45.69E	Erven
6467	MELODING	14783	0	28°9'1.12S	26°52'46.05E	Erven
6468	MELODING	15013	0	28°9'16.09S	26°53'1.57E	Erven
6469	MELODING	15014	0	28°9'16.14S	26°53'2E	Erven
6470	MELODING	14160	0	28°8'56.26S	26°52'44.91E	Erven
6471	MELODING	14161	0	28°8'56.59S	26°52'44.56E	Erven
6472	MELODING	14594	0	28°9'5.62S	26°52'42.5E	Erven
6473	MELODING	14597	0	28°9'6.57S	26°52'44.26E	Erven
6474	MELODING	14602	0	28°9'8.44S	26°52'45.15E	Erven
6475	MELODING	14603	0	28°9'8.09S	26°52'44.74E	Erven
6476	MELODING	15039	0	28°9'14.49S	26°52'59.53E	Erven
6477	MELODING	15040	0	28°9'14.84S	26°52'59.08E	Erven
6478	MELODING	14179	0	28°8'56.83S	26°52'45.57E	Erven
6479	MELODING	14182	0	28°8'55.84S	26°52'46.64E	Erven
6480	MELODING	14617	0	28°9'9.39S	26°52'47.56E	Erven
6481	MELODING	14618	0	28°9'9.7S	26°52'47.93E	Erven
6482	MELODING	14631	0	28°9'10.92S	26°52'48.03E	Erven
6483	MELODING	14632	0	28°9'10.6S	26°52'47.67E	Erven
6484	MELODING	14191	0	28°8'54.13S	26°52'36.29E	Erven
6485	MELODING	14192	0	28°8'54.45S	26°52'35.93E	Erven
6486	MELODING	15060	0	28°9'13.56S	26°53'3.08E	Erven
6487	MELODING	15061	0	28°9'13.84S	26°53'2.78E	Erven
6488	MELODING	15078	0	28°9'12.72S	26°53'6.52E	Erven
6489	MELODING	15079	0	28°9'13.02S	26°53'6.21E	Erven
6490	MELODING	14217	0	28°8'52.58S	26°52'36.7E	Erven
6491	MELODING	14639	0	28°9'11.84S	26°52'43.18E	Erven
6492	MELODING	14640	0	28°9'11.51S	26°52'43.53E	Erven
6493	MELODING	14662	0	28°9'11.85S	26°52'47.48E	Erven
6494	MELODING	14663	0	28°9'12.22S	26°52'47.1E	Erven
6495	MELODING	15096	0	28°9'13.13S	26°53'5.07E	Erven
6496	MELODING	14223	0	28°8'52.49S	26°52'41.13E	Erven
6497	MELODING	14237	0	28°8'55.19S	26°52'36.91E	Erven
6498	MELODING	14238	0	28°8'54.87S	26°52'37.26E	Erven
6499	MELODING	15099	0	28°9'12.29S	26°53'6.02E	Erven
6500	MELODING	15100	0	28°9'12.8S	26°53'8.32E	Erven
6501	MELODING	14677	0	28°9'13.57S	26°52'51.13E	Erven
6502	MELODING	14678	0	28°9'13.21S	26°52'50.74E	Erven
6503	MELODING	15126	0	28°9'15.44S	26°53'11.31E	Erven
6504	MELODING	15127	0	28°9'15.72S	26°53'11.62E	Erven
6505	MELODING	14116	0	28°8'55.72S	26°52'32.86E	Erven
6506	MELODING	14132	0	28°8'49.86S	26°52'39.65E	Erven
6507	MELODING	14133	0	28°8'50.19S	26°52'39.3E	Erven
6508	MELODING	14579	0	28°9'13.28S	26°52'39.5E	Erven

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6509	MELODING	14580	0	28°9'9.36S	26°52'40.13E	Erven
6510	MELODING	14139	0	28°8'50.43S	26°52'40.31E	Erven
6511	MELODING	14142	0	28°8'50.19S	26°52'41.83E	Erven
6512	MELODING	14143	0	28°8'50.51S	26°52'42.19E	Erven
6513	MELODING	14156	0	28°8'54.99S	26°52'46.4E	Erven
6514	MELODING	4837	0	28°9'14.25S	26°53'28.97E	Erven
6515	MELODING	5371	0	28°8'43.25S	26°53'25.65E	Erven
6516	MELODING	5368	0	28°8'42.43S	26°53'24.71E	Erven
6517	MELODING	5362	0	28°8'40.72S	26°53'22.68E	Erven
6518	MELODING	4011	0	28°8'49.27S	26°53'32.73E	Erven
6519	MELODING	4010	0	28°8'49S	26°53'32.39E	Erven
6520	MELODING	5347	0	28°8'36.65S	26°53'17.93E	Erven
6521	MELODING	5815	0	28°8'35.36S	26°53'16.4E	Erven
6522	MELODING	5803	0	28°8'31.92S	26°53'12.41E	Erven
6523	MELODING	5812	0	28°8'34.45S	26°53'15.35E	Erven
6524	MELODING	5795	0	28°8'29.76S	26°53'9.87E	Erven
6525	MELODING	4028	0	28°8'54.42S	26°53'37.68E	Erven
6526	MELODING	4027	0	28°8'54.07S	26°53'37.54E	Erven
6527	MELODING	2745	0	28°8'31.8S	26°53'18.81E	Erven
6528	MELODING	2822	0	28°8'32.16S	26°53'20.97E	Erven
6529	MELODING	4246	0	28°8'51.66S	26°53'27.78E	Erven
6530	MELODING	3605	0	28°8'47.12S	26°53'50.15E	Erven
6531	MELODING	6037	0	28°8'37.63S	26°53'7.69E	Erven
6532	MELODING	1708	0	28°8'20.06S	26°53'32.86E	Erven
6533	MELODING	13042	0	28°9'14.64S	26°53'23.61E	Erven
6534	MELODING	3416	0	28°8'44.8S	26°53'39.04E	Erven
6535	MELODING	12100	0	28°8'24.71S	26°53'49.47E	Erven
6536	MELODING	14543	0	28°9'8.16S	26°52'36.6E	Erven
6537	MELODING	14392	0	28°8'58.54S	26°52'30.05E	Erven
6538	MELODING	2998	0	28°8'38.44S	26°53'32.87E	Erven
6539	MELODING	3002	0	28°8'39.76S	26°53'31.94E	Erven
6540	MELODING	6487	0	28°8'59.29S	26°52'58.06E	Erven
6541	MELODING	3172	0	28°8'47.55S	26°53'33.27E	Erven
6542	MELODING	14612	0	28°9'9.53S	26°52'45.7E	Erven
6543	MELODING	14206	0	28°8'56.94S	26°52'34.49E	Erven
6544	MELODING	4546	0	28°9'0.75S	26°53'29.22E	Erven
6545	MELODING	4545	0	28°9'1.01S	26°53'35.91E	Erven
6546	MELODING	12501	0	28°8'15.82S	26°53'16.97E	Erven
6547	MELODING	12498	0	28°8'16.71S	26°53'16.01E	Erven
6548	MELODING	12600	0	28°8'17.39S	26°53'20.45E	Erven
6549	MELODING	12599	0	28°8'17.83S	26°53'20.06E	Erven
6550	MELODING	5333	0	28°8'39.56S	26°53'20.22E	Erven
6551	MELODING	4076	0	28°8'48.66S	26°53'30.86E	Erven
6552	MELODING	4075	0	28°8'48.94S	26°53'31.16E	Erven
6553	MELODING	6613	0	28°8'23.85S	26°53'56.1E	Erven
6554	MELODING	6612	0	28°8'23.61S	26°53'55.53E	Erven
6555	MELODING	6789	0	28°8'55.55S	26°52'57.97E	Erven
6556	MELODING	6788	0	28°8'56.11S	26°52'58.5E	Erven
6557	MELODING	6702	0	28°8'51.24S	26°52'59.58E	Erven
6558	MELODING	6701	0	28°8'51.39S	26°53'0.15E	Erven
6559	MELODING	6687	0	28°8'48.96S	26°52'57.51E	Erven
6560	MELODING	6684	0	28°8'47.39S	26°52'57.41E	Erven
6561	MELODING	6776	0	28°8'37.16S	26°53'2.14E	Erven
6562	MELODING	6775	0	28°8'37.55S	26°53'1.67E	Erven
6563	MELODING	6758	0	28°8'39.78S	26°53'0.69E	Erven
6564	MELODING	6757	0	28°8'39.41S	26°53'1.12E	Erven
6565	MELODING	6743	0	28°8'36.6S	26°52'59.07E	Erven
6566	MELODING	6740	0	28°8'37.78S	26°52'57.78E	Erven
6567	MELODING	6726	0	28°8'36.02S	26°53'1.09E	Erven
6568	MELODING	6725	0	28°8'35.64S	26°53'1.56E	Erven

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6569	MELODING	6920	0	28°8'55.53S	26°52'51.05E	Erven
6570	MELODING	6919	0	28°8'55.19S	26°52'50.6E	Erven
6571	MELODING	6905	0	28°8'49.33S	26°52'43.85E	Erven
6572	MELODING	6902	0	28°8'47.65S	26°52'43.81E	Erven
6573	MELODING	6887	0	28°8'51.83S	26°52'49.01E	Erven
6574	MELODING	6886	0	28°8'52.23S	26°52'49.42E	Erven
6575	MELODING	6869	0	28°8'50.37S	26°52'48.83E	Erven
6576	MELODING	6868	0	28°8'49.96S	26°52'48.37E	Erven
6577	MELODING	6854	0	28°8'49.4S	26°52'49.98E	Erven
6578	MELODING	6851	0	28°8'50.54S	26°52'51.3E	Erven
6579	MELODING	6837	0	28°8'45.37S	26°52'49.06E	Erven
6580	MELODING	6836	0	28°8'45.73S	26°52'49.63E	Erven
6581	MELODING	6819	0	28°8'42.65S	26°52'51.24E	Erven
6582	MELODING	6818	0	28°8'40.96S	26°52'49.61E	Erven
6583	MELODING	6804	0	28°8'44.78S	26°52'46.92E	Erven
6584	MELODING	6801	0	28°8'43.61S	26°52'48.21E	Erven
6585	MELODING	6800	0	28°8'43.2S	26°52'48.64E	Erven
6586	MELODING	3803	0	28°8'32.37S	26°54'4.24E	Erven
6587	MELODING	2168	0	28°8'32.07S	26°54'4.47E	Erven
6588	MELODING	2232	0	28°8'28.65S	26°54'0.29E	Erven
6589	MELODING	2231	0	28°8'29.02S	26°54'0.4E	Erven
6590	MELODING	2228	0	28°8'29.08S	26°54'1.11E	Erven
6591	MELODING	2383	0	28°8'38.71S	26°53'57.6E	Erven
6592	MELODING	2401	0	28°8'38.78S	26°53'56.89E	Erven
6593	MELODING	2364	0	28°8'39.04S	26°53'50.79E	Erven
6594	MELODING	2363	0	28°8'38.72S	26°53'51.04E	Erven
6595	MELODING	2321	0	28°8'38.99S	26°53'49.94E	Erven
6596	MELODING	2320	0	28°8'39.3S	26°53'49.7E	Erven
6597	MELODING	2317	0	28°8'40.19S	26°53'51.29E	Erven
6598	MELODING	3097	0	28°8'35.78S	26°53'41.12E	Erven
6599	MELODING	3096	0	28°8'35.89S	26°53'41.43E	Erven
6600	MELODING	3079	0	28°8'39.11S	26°53'48.38E	Erven
6601	MELODING	2584	0	28°8'38.61S	26°53'48.79E	Erven
6602	MELODING	2570	0	28°8'35.84S	26°53'43.42E	Erven
6603	MELODING	2567	0	28°8'35.42S	26°53'42.17E	Erven
6604	MELODING	12159	0	28°8'30.51S	26°53'42.02E	Erven
6605	MELODING	12158	0	28°8'30.66S	26°53'42.5E	Erven
6606	MELODING	12067	0	28°8'24.95S	26°53'53.28E	Erven
6607	MELODING	12066	0	28°8'24.81S	26°53'52.87E	Erven
6608	MELODING	12052	0	28°8'22.86S	26°53'46.91E	Erven
6609	MELODING	12049	0	28°8'22.54S	26°53'45.74E	Erven
6610	MELODING	11802	0	28°8'20.8S	26°53'46.37E	Erven
6611	MELODING	11801	0	28°8'20.67S	26°53'45.91E	Erven
6612	MELODING	5828	0	28°8'39.03S	26°53'12.37E	Erven
6613	MELODING	14980	0	28°9'8.86S	26°53'2.86E	Erven
6614	MELODING	5976	0	28°8'39.15S	26°53'10.18E	Erven
6615	MELODING	5975	0	28°8'38.88S	26°53'9.87E	Erven
6616	MELODING	6187	0	28°8'39.17S	26°53'7.14E	Erven
6617	MELODING	6186	0	28°8'38.87S	26°53'7.45E	Erven
6618	MELODING	5988	0	28°8'43.68S	26°53'7.33E	Erven
6619	MELODING	6021	0	28°8'42.66S	26°53'7.43E	Erven
6620	MELODING	5586	0	28°8'48.57S	26°53'5.27E	Erven
6621	MELODING	5628	0	28°8'48.24S	26°53'4.52E	Erven
6622	MELODING	5670	0	28°8'49.42S	26°53'10.29E	Erven
6623	MELODING	5669	0	28°8'49.14S	26°53'9.94E	Erven
6624	MELODING	5469	0	28°8'48.46S	26°53'15.67E	Erven
6625	MELODING	5513	0	28°8'48.58S	26°53'17.1E	Erven
6626	MELODING	4129	0	28°8'58.82S	26°53'18.42E	Erven
6627	MELODING	4128	0	28°8'59.24S	26°53'18.81E	Erven
6628	MELODING	4447	0	28°8'58.93S	26°53'21.84E	Erven

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6629	MELODING	4446	0	28°8'58.65S	26°53'22.14E	Erven
6630	MELODING	4420	0	28°8'58.24S	26°53'29.61E	Erven
6631	MELODING	4382	0	28°8'58.67S	26°53'30.43E	Erven
6632	MELODING	4198	0	28°8'51.11S	26°53'29.48E	Erven
6633	MELODING	4190	0	28°8'48.96S	26°53'26.93E	Erven
6634	MELODING	4628	0	28°9'7.37S	26°53'29.75E	Erven
6635	MELODING	4627	0	28°9'7.59S	26°53'30.11E	Erven
6636	MELODING	4791	0	28°9'9.08S	26°53'30.51E	Erven
6637	MELODING	4788	0	28°9'8.4S	26°53'29.42E	Erven
6638	MELODING	1588	0	28°8'18.65S	26°53'33.65E	Erven
6639	MELODING	1587	0	28°8'18.5S	26°53'33.24E	Erven
6640	MELODING	2657	0	28°8'24.96S	26°53'17.97E	Erven
6641	MELODING	2587	0	28°8'22.85S	26°53'18.63E	Erven
6642	MELODING	2123	0	28°8'21.79S	26°53'18.83E	Erven
6643	MELODING	2037	0	28°8'19.11S	26°53'23.74E	Erven
6644	MELODING	2036	0	28°8'19.41S	26°53'24.03E	Erven
6645	MELODING	1973	0	28°8'18.7S	26°53'26.82E	Erven
6646	MELODING	1971	0	28°8'18.06S	26°53'25.56E	Erven
6647	MELODING	1897	0	28°8'27.89S	26°53'29.77E	Erven
6648	MELODING	1896	0	28°8'27.62S	26°53'29.45E	Erven
6649	MELODING	1930	0	28°8'24.24S	26°53'29.68E	Erven
6650	MELODING	1929	0	28°8'24.71S	26°53'30.15E	Erven
6651	MELODING	1589	0	28°8'18.82S	26°53'34.22E	Erven
6652	MELODING	12430	0	28°8'23.76S	26°53'13.04E	Erven
6653	MELODING	12426	0	28°8'22.58S	26°53'11.62E	Erven
6654	MELODING	12436	0	28°8'27.57S	26°53'6.04E	Erven
6655	MELODING	12435	0	28°8'28.05S	26°53'6.04E	Erven
6656	MELODING	22265	28	28°8'30.45S	26°53'41.06E	Erven
6657	MELODING	22265	24	28°8'29.15S	26°53'40.16E	Erven
6658	MELODING	22265	9	28°8'25.66S	26°53'41.08E	Erven
6659	MELODING	22265	8	28°8'25.36S	26°53'41.07E	Erven
6660	VENTERSBURG	12434	71	28°8'24.31S	26°53'10.63E	Erven
6661	VENTERSBURG	12434	68	28°8'26.03S	26°53'9.94E	Erven
6662	VENTERSBURG	12434	54	28°8'25.23S	26°53'8.77E	Erven
6663	VENTERSBURG	12434	53	28°8'24.75S	26°53'8.84E	Erven
6664	VENTERSBURG	12434	36	28°8'27.93S	26°53'8.35E	Erven
6665	VENTERSBURG	12434	35	28°8'27.89S	26°53'8.93E	Erven
6666	VENTERSBURG	12434	21	28°8'23.31S	26°53'11.84E	Erven
6667	VENTERSBURG	12434	18	28°8'22.19S	26°53'10.55E	Erven
6668	VENTERSBURG	12434	17	28°8'21.67S	26°53'10E	Erven
6669	VENTERSBURG	12434	4	28°8'26.46S	26°53'6.89E	Erven
6670	VENTERSBURG	12434	3	28°8'26.96S	26°53'6.89E	Erven
6671	SCHOONHEID	540	0	28°8'38.01S	26°51'49.6E	Farm
6672	TWEEPAN	678	0	28°9'9.08S	26°50'48.15E	Farm
6673	CHRISTIANA	452	0	28°9'23.85S	26°54'31.56E	Farm
6674	STILTE	138	0	28°8'51.35S	26°53'8.42E	Farm
6675	DORA	287	0	28°9'38.97S	26°53'18.14E	Farm
6676	MERRIESPRUIT	219	0	28°7'35.29S	26°54'17.01E	Farm
6677	KALLAAGTE	562	0	28°8'10.83S	26°51'23.11E	Farm
6678	MOOI UITZIG	352	0	28°9'26.18S	26°52'7.63E	Farm
6679	MILLO	639	0	28°9'31.55S	26°50'44.57E	Farm
6680	STILTE	138	0	28°9'19.44S	26°53'26.2E	Farm Portion
6681	MILLO	639	2	28°9'41.38S	26°51'32.44E	Farm Portion
6682	SCHOONHEID	540	0	28°8'39.1S	26°51'48.71E	Farm Portion
6683	MERRIESPRUIT	219	33	28°8'10.18S	26°53'20.56E	Farm Portion
6684	STILTE	138	11	28°8'33.58S	26°53'52.15E	Farm Portion
6685	STILTE	138	1	28°8'19.16S	26°53'6.61E	Farm Portion
6686	STILTE	138	29	28°8'40.24S	26°52'38.95E	Farm Portion
6687	STILTE	138	26	28°8'35.98S	26°53'2.62E	Farm Portion
6688	STILTE	138	22	28°9'12.39S	26°53'1.7E	Farm Portion

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6689	STILTE	138	0	28°9'18.48S	26°53'18.83E	Farm Portion
6690	TWEEPAN	678	2	28°9'25.89S	26°51'43.45E	Farm Portion
6691	MOOI UITZIG	352	0	28°9'26.61S	26°52'10.75E	Farm Portion
6692	STILTE	138	14	28°8'54.67S	26°53'16.88E	Farm Portion
6693	STILTE	138	10	28°8'47.74S	26°53'41.19E	Farm Portion
6694	MERRIESPRUIT	219	17	28°8'15.14S	26°54'19.2E	Farm Portion
6695	STILTE	138	25	28°8'31.8S	26°52'51.77E	Farm Portion
6696	MILLO	639	1	28°9'38.4S	26°51'21.28E	Farm Portion
6697	TWEEPAN	678	1	28°9'3.52S	26°50'39.98E	Farm Portion
6698	STILTE	138	8	28°8'24.95S	26°53'30.34E	Farm Portion
6699	STILTE	138	28	28°8'47.77S	26°52'50.41E	Farm Portion
6700	STILTE	138	19	28°9'4.81S	26°52'38.62E	Farm Portion
6701	STILTE	138	27	28°8'48.32S	26°52'51.23E	Farm Portion
6702	TWEEPAN	678	0	28°9'20.03S	26°51'30.27E	Farm Portion
6703	MOOI UITZIG	352	0	28°8'54.46S	26°52'5.86E	Farm Portion
6704	MERRIESPRUIT	219	31	28°8'16.42S	26°53'38.23E	Farm Portion
6705	STILTE	138	15	28°8'22.28S	26°53'11.13E	Farm Portion
6706	STILTE	138	9	28°8'33.98S	26°53'22.29E	Farm Portion
6707	DORA	287	0	28°9'39.66S	26°53'16.93E	Farm Portion
6708	MOOI UITZIG	352	1	28°9'7.71S	26°52'0.76E	Farm Portion
6709	STILTE	138	18	28°9'10.71S	26°53'15.36E	Farm Portion
6710	KALLAAGTE	562	0	28°8'10.83S	26°51'23.11E	Farm Portion
6711	STILTE	138	20	28°9'15.04S	26°53'4.77E	Farm Portion
6712	STILTE	138	23	28°8'30.89S	26°52'49.38E	Farm Portion
6713	CHRISTIANA	452	0	28°9'24.69S	26°54'30.44E	Farm Portion
6714	MERRIESPRUIT	219	32	28°8'21.02S	26°53'54.7E	Farm Portion
6715	MERRIESPRUIT	219	27	28°8'25.07S	26°54'3.79E	Farm Portion
6716	STILTE	138	21	28°9'17.6S	26°53'14.75E	Farm Portion
6717	STILTE	138	24	28°8'22.38S	26°52'59.34E	Farm Portion
6718	MELODING	3375	0	28°8'44.61S	26°53'40.92E	Public Place
6719	MELODING	4608	0	28°9'4.44S	26°53'26.28E	Public Place
6720	MELODING	3100	0	28°8'34.98S	26°53'38.69E	Public Place
6721	MELODING	14489	0	28°9'7.03S	26°52'29.75E	Public Place
6722	MELODING	15162	0	28°9'15.43S	26°52'55.78E	Public Place
6723	MELODING	2160	0	28°8'34.33S	26°54'4.69E	Public Place
6724	MELODING	6667	0	28°8'14.67S	26°53'26.73E	Public Place
6725	MELODING	1572	0	28°8'15.79S	26°53'26.05E	Public Place
6726	MELODING	1811	0	28°8'22.6S	26°53'35.84E	Public Place
6727	MELODING	4367	0	28°8'53.96S	26°53'27.15E	Public Place
6728	MELODING	12668	0	28°9'17.07S	26°53'17.5E	Public Place
6729	MELODING	1588	0	28°9'9.32S	26°53'36.63E	Public Place
6730	MELODING	2293	0	28°8'41.96S	26°53'58.49E	Public Place
6731	MELODING	6716	0	28°8'48.2S	26°52'54.55E	Public Place
6732	MELODING	14299	0	28°8'59.73S	26°52'38.47E	Public Place
6733	MELODING	2072	0	28°8'24.46S	26°53'25.38E	Public Place
6734	MELODING	12737	0	28°9'6.43S	26°53'11.55E	Public Place
6735	MELODING	6632	0	28°8'8.88S	26°53'19.18E	Public Place
6736	MELODING	3519	0	28°8'53.18S	26°53'49.59E	Public Place
6737	MELODING	14733	0	28°9'7.69S	26°52'54.86E	Public Place
6738	MELODING	14691	0	28°9'4.65S	26°52'44.85E	Public Place
6739	MELODING	2671	0	28°8'29.85S	26°53'15.97E	Public Place
6740	MELODING	5870	0	28°8'31.41S	26°53'8.44E	Public Place

Development footprint[1] vertices:

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

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No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	14/12/16/3/3/2/2215	Solar PV	Approved	8.1
2	14/12/16/3/3/2/2297	Solar PV	Approved	0
3	14/12/16/3/3/2/2100	Solar PV	Approved	9.8
4	14/12/16/3/3/2/2101	Solar PV	Approved	9.8
5	14/12/16/3/3/2/2218	Solar PV	Approved	29.4
6	14/12/16/3/3/2/2217	Solar PV	Approved	7.6
7	14/12/16/3/3/1/1322	Solar PV	Approved	23.1
8	14/12/16/3/3/1/2399	Solar PV	Approved	13
9	14/12/16/3/3/2/2233	Solar PV	Approved	21.7
10	12/12/20/2668	Solar PV	Approved	13
11	14/12/16/3/3/2/512	Solar PV	Approved	19.3
12	14/12/16/3/3/2/2099	Solar PV	Approved	9.8
13	14/12/16/3/3/2/2214	Solar PV	Approved	2.5
14	12/12/20/2669	Solar PV	Approved	2.6
15	14/12/16/3/3/2/2087	Solar PV	Approved	5.4
16	12/12/20/2667	Solar PV	Approved	13
17	12/12/20/2666	Solar PV	Approved	11.4
18	14/12/16/3/3/2/2220	Solar PV	Approved	25.9
19	14/12/16/3/3/1/2410	Solar PV	Approved	27.5
20	14/12/16/3/3/2/2163	Solar PV	Approved	9.5
21	12/12/20/2666/A	Solar PV	Approved	11.4
22	12/12/20/2669/A	Solar PV	Approved	2.6
23	14/12/16/3/3/2/2230	Solar PV	Approved	1.8
24	14/12/16/3/3/1/2772	Solar PV	Approved	5.4

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is: **Mining|Mining Right**.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

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No intersection with any development zones found.

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme			X	
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme		X		
Defence Theme				X
Paleontology Theme			X	
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Agriculture_Assessment_Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
6	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf

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7	Hydrology Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
8	Noise Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Noise_Impacts_Assessment_Protocol.pdf
9	Radioactivity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Traffic Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
11	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
12	Climate Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
13	Health Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
14	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
15	Ambient Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
16	Seismicity Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
17	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
18	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

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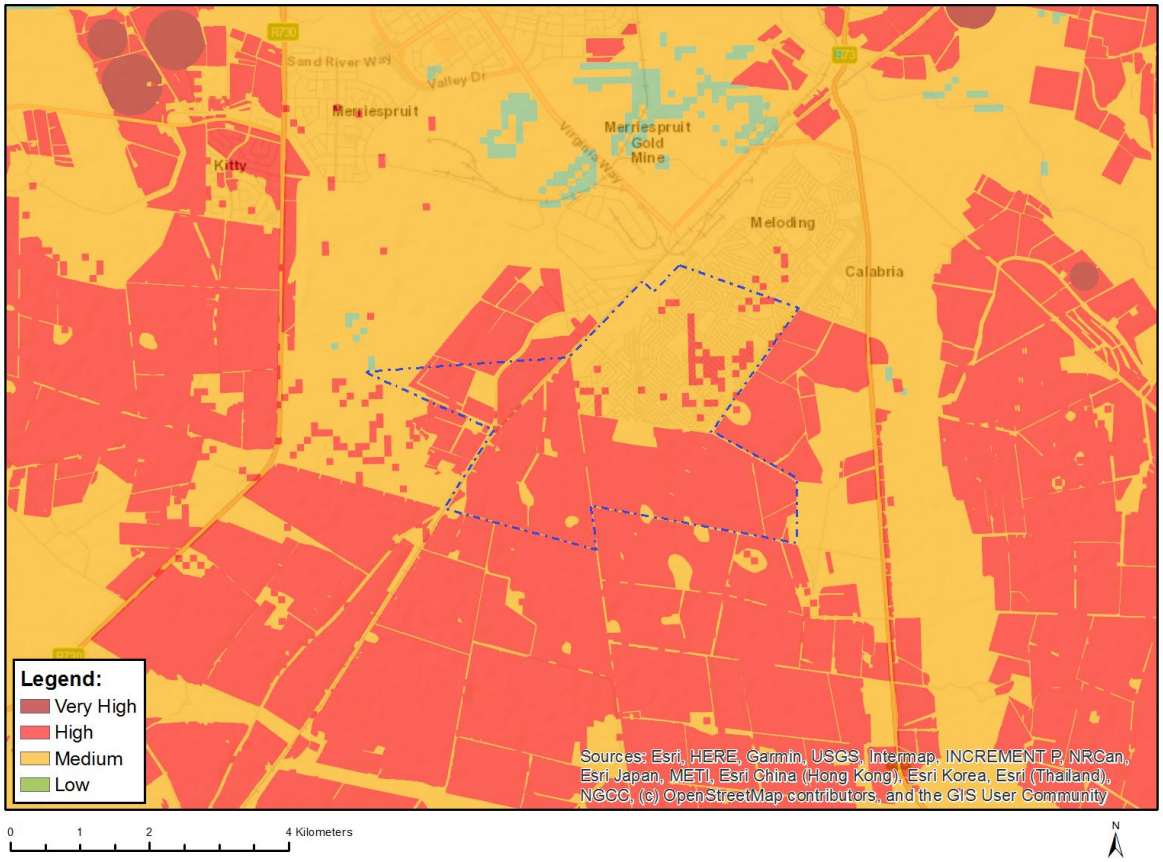
Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

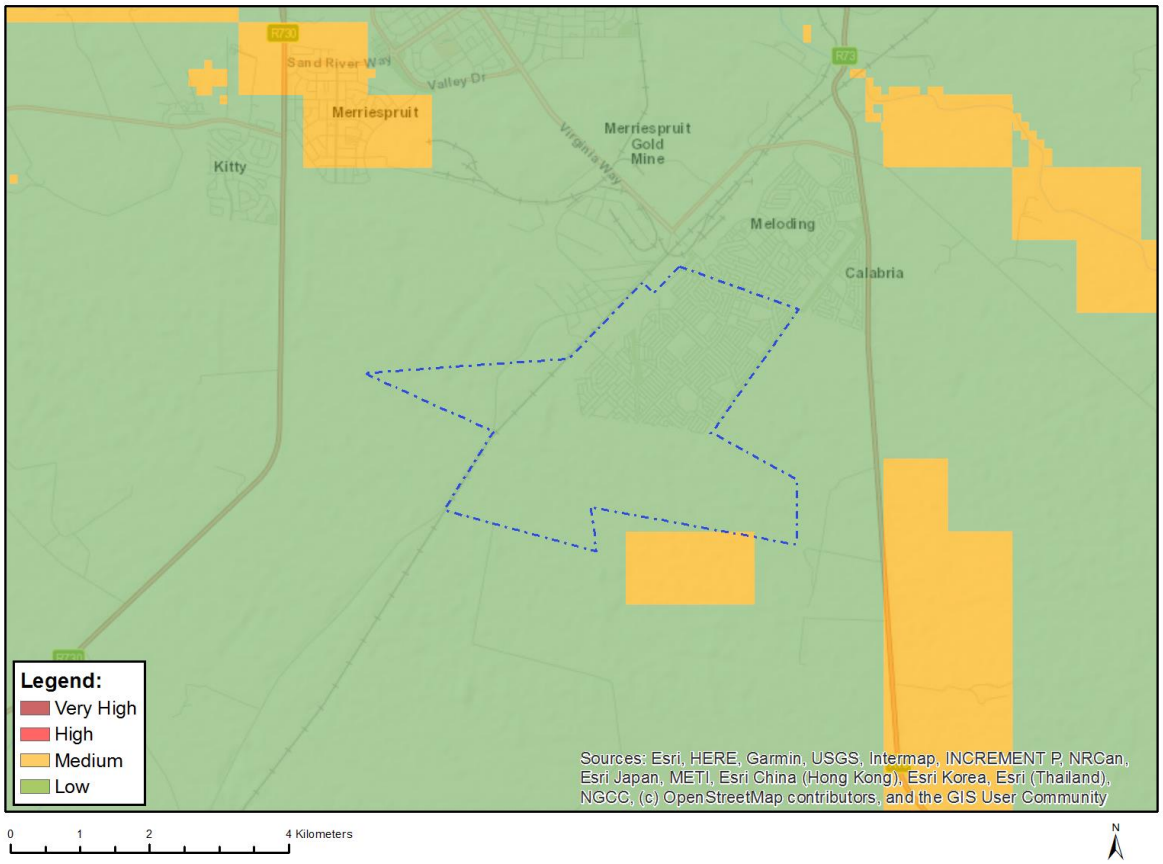


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Land capability;09. Moderate-High/10. Moderate-High
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;09. Moderate-High/10. Moderate-High
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Subject to confirmation
Medium	Mammalia-Hydrictis maculicollis

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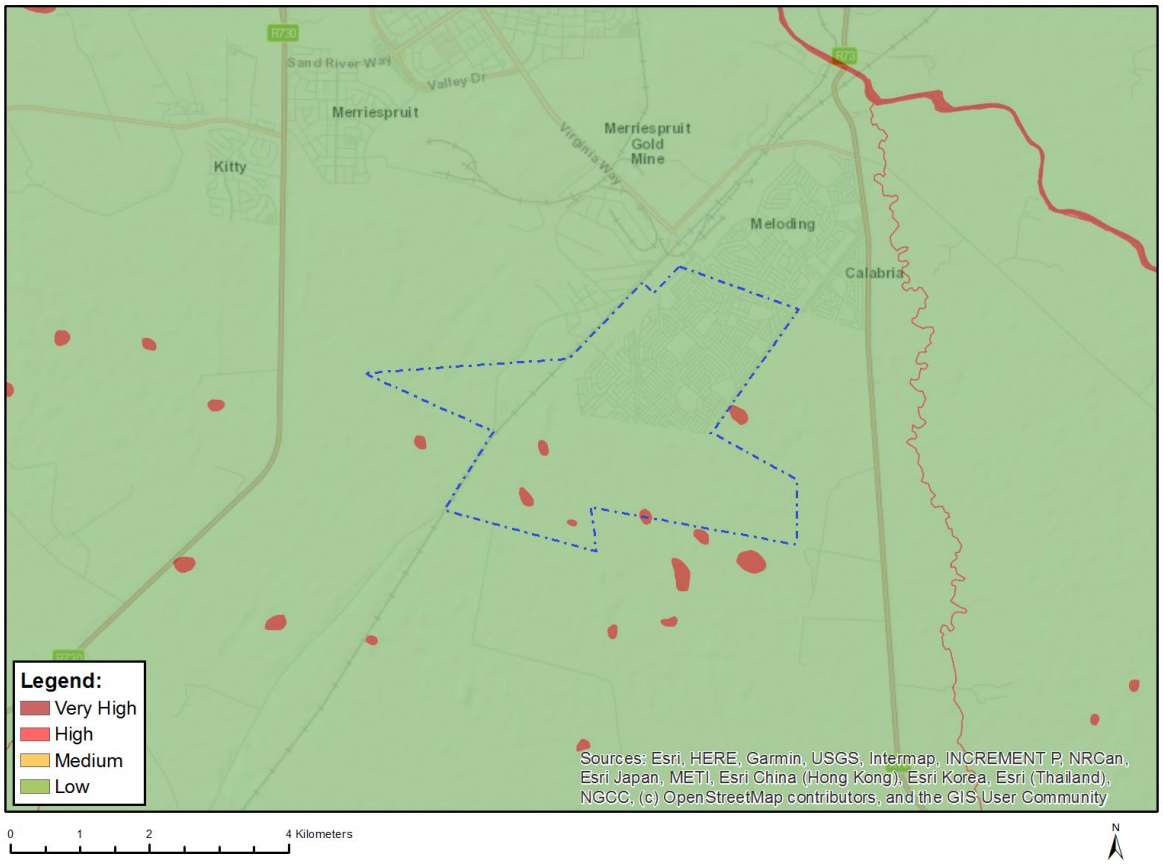
MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Very High	Wetlands_Dry Highveld Grassland Bioregion (Depression)
Very High	Wetlands_Dry Highveld Grassland Bioregion (Seep)

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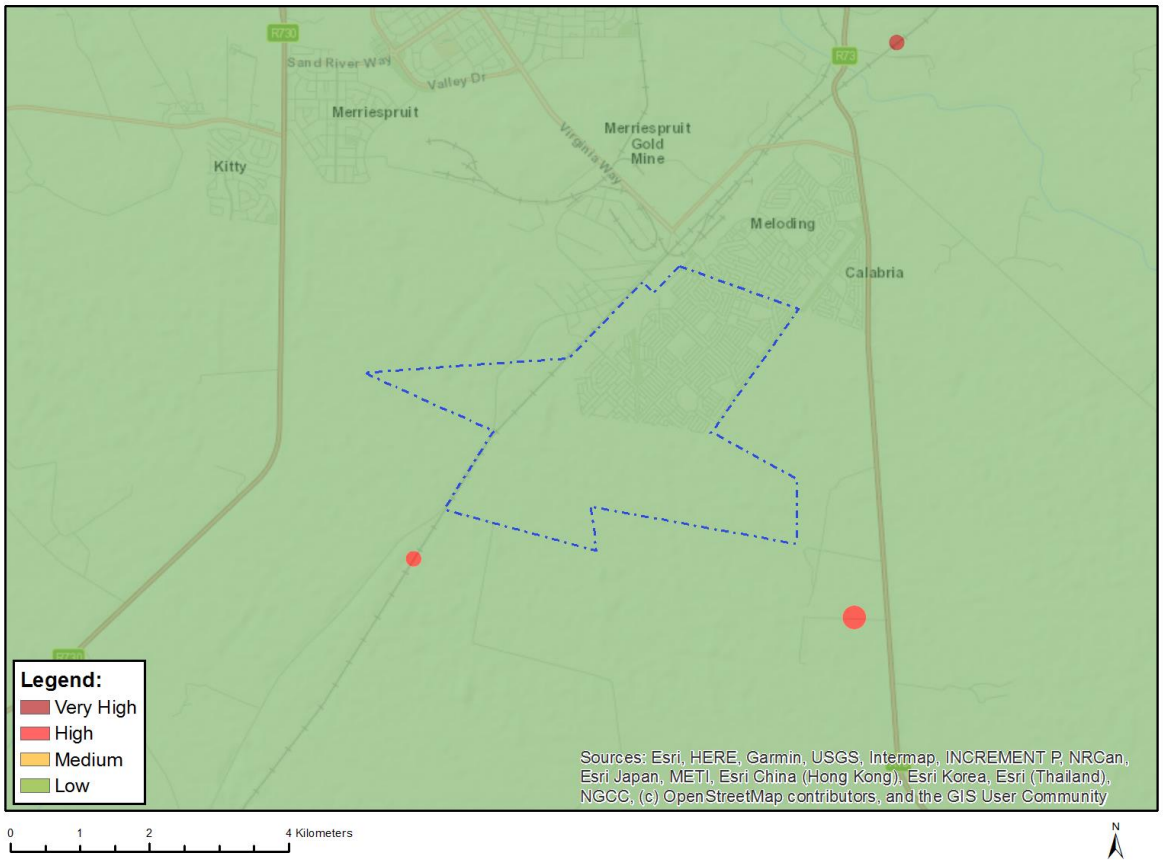
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

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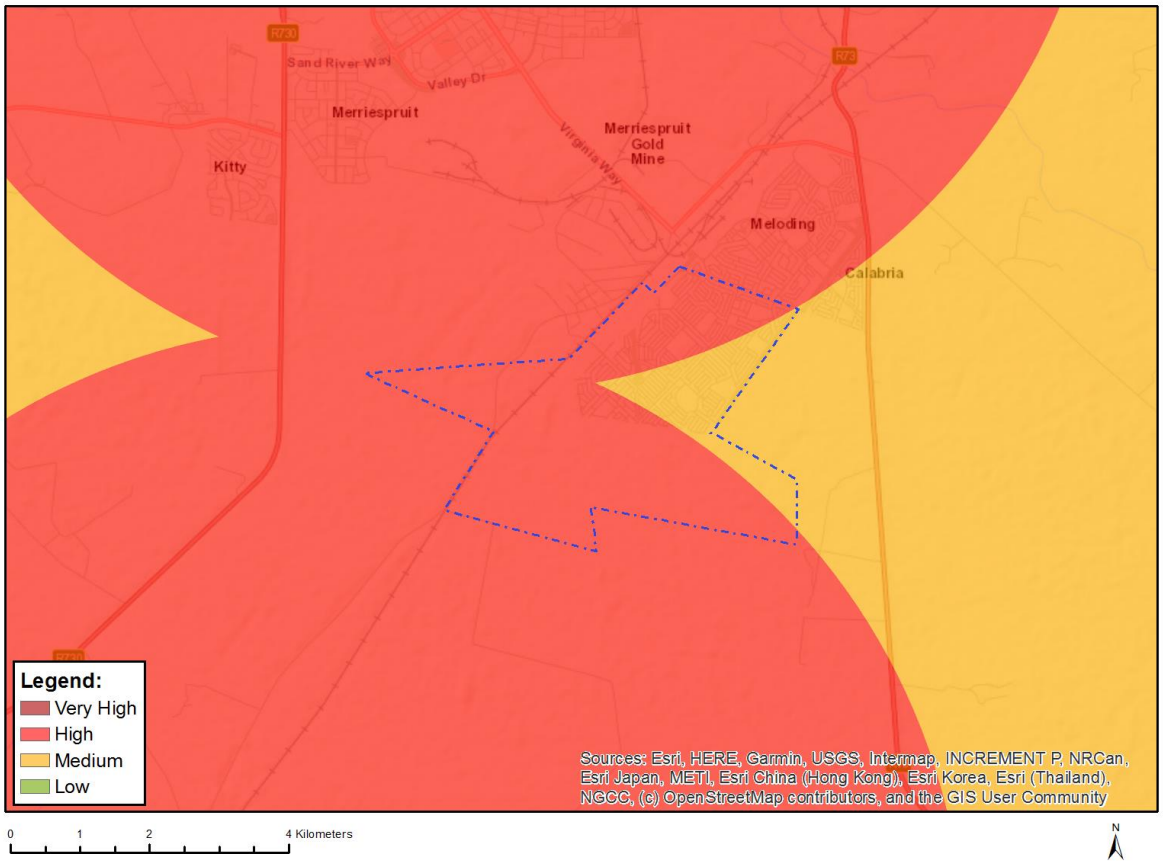
MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 8 km of other civil aviation aerodrome
Medium	Between 8 and 15 km of other civil aviation aerodrome

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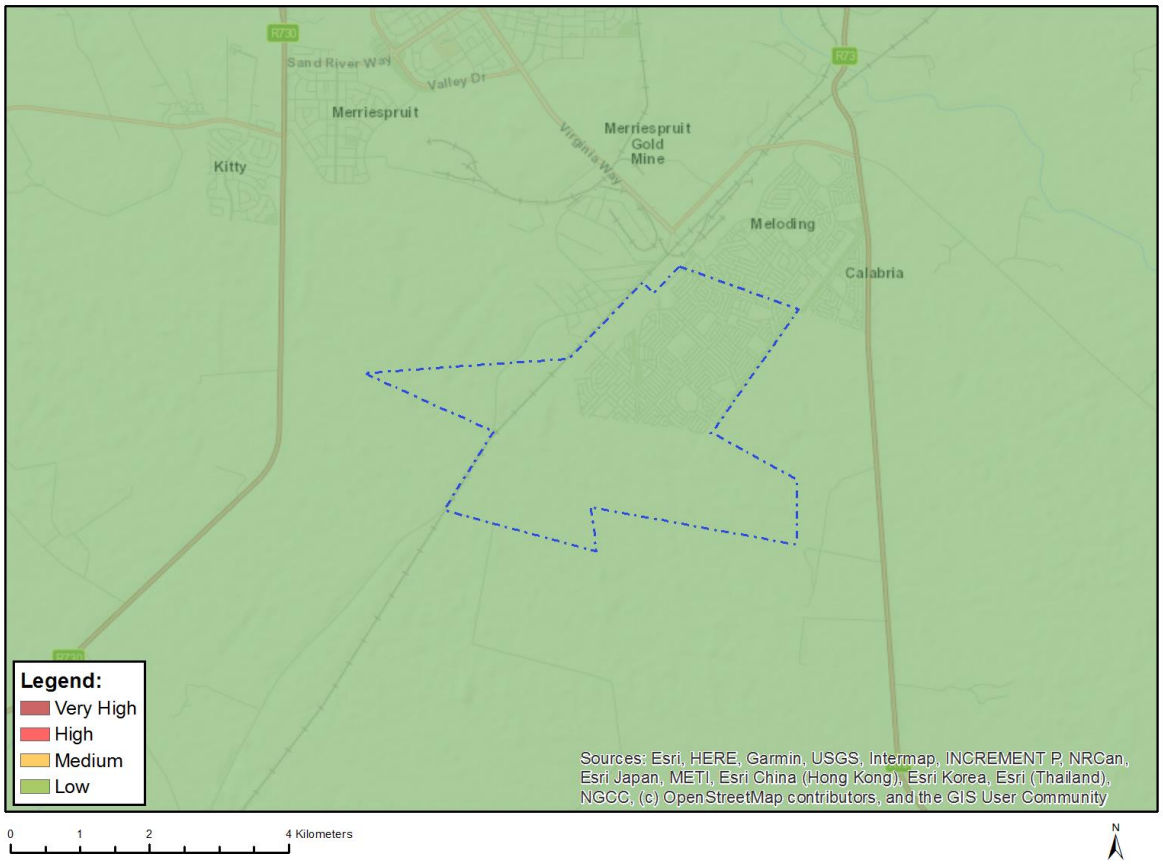
MAP OF RELATIVE DEFENCE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

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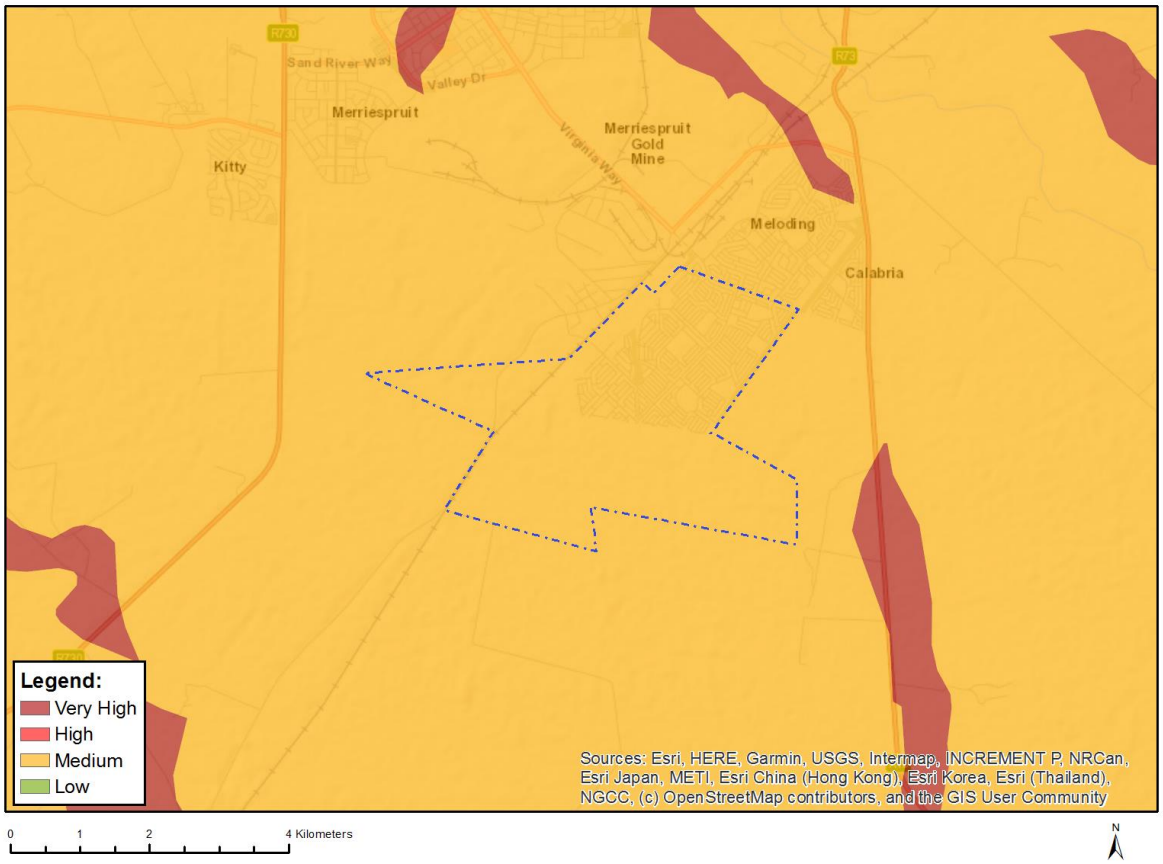
MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Features with a Medium paleontological sensitivity

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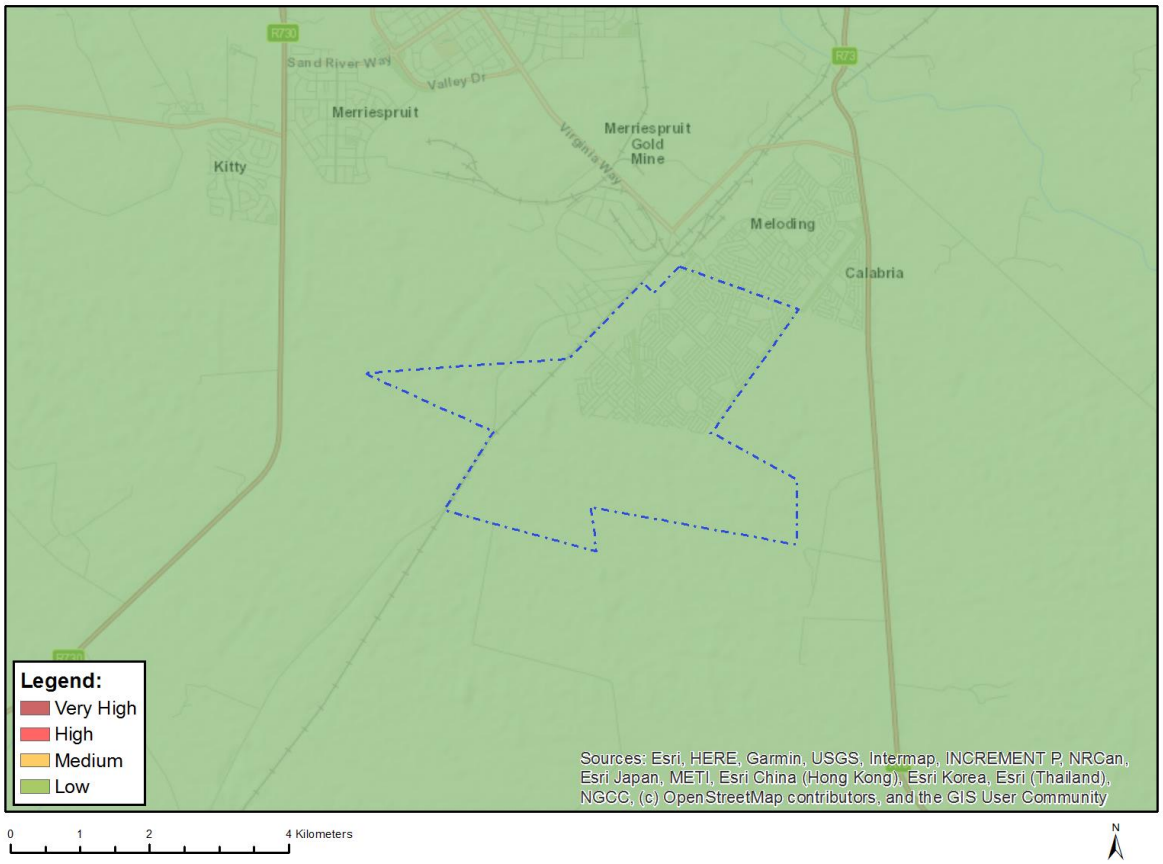
MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



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Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

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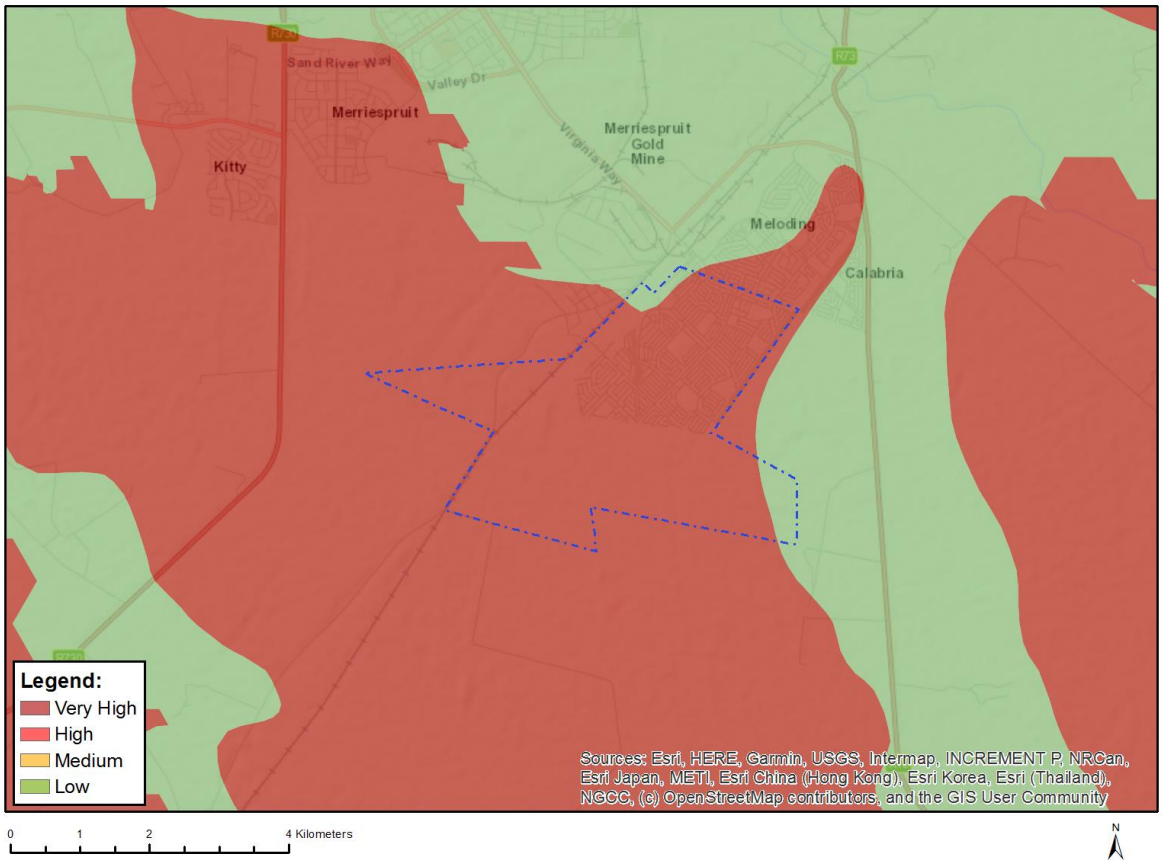
MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	CBA 1
Very High	EN_Vaal-Vet Sandy Grassland

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Appendix C: Specialist Assessments

Appendix C-1: Hydrogeological Assessment

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Southern Free State EMPr Update Hydrogeological Assessment

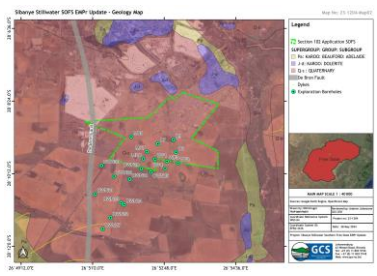
Version - Draft

June 2024

PO Number: 5501512844

GCS Project Number: 23-1204






Southern Free State EMPr Update Hydrogeological Assessment Report

June 2024

Sibanye Stillwater

23-1204

DOCUMENT ISSUE STATUS

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Client Reference	Hydrogeological Assessment (excluding drilling) PO Number 5501512844		
Title	Southern Free State EMPr Update Hydrogeological Assessment Report		
	Name	**Signature**	**Date**
Author	Niël Kruger		19 June 2024
Director and Reviewer	Andrew Johnstone	Andrew Johnstone	19 June 2024

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GLOSSARY

Aquifer – A body of rock, consolidated or unconsolidated, that is sufficiently permeable to conduct groundwater and to yield significant quantities of water to wells and springs.

Bedrock – A general term for the rock that underlies soil or other unconsolidated superficial material. In the study area bedrock typically consists of shale and sandstone that belong to the Vryheid formation of the Karoo super group.

A confined aquifer - a formation in which the groundwater is isolated from the atmosphere at the point of discharge by impermeable geologic formations; confined groundwater is generally subject to pressure greater than atmospheric pressure.

Fault – A fracture or fracture zone along which there has been displacement of the sides relative to one another parallel to the fracture.

Fracture – A crack, joint, fault or other break in rocks caused by mechanical failure.

pH - is a measure of the acidity or alkalinity of a solution, numerically equal to 7 for neutral solutions, increasing with increasing alkalinity and decreasing with increasing acidity.

Porosity – The ratio of the aggregate volume of interstices in a rock or soil to its total volume. It is usually stated as a percentage.

Recharge - is the addition of water to the zone of saturation; also, the amount of water added.

SANS - Soouth African National Standards

SAWQG – South African Water Quality Guidelines

Static water level - is the level of water in a borehole that is not being affected by withdrawal of groundwater.

Total dissolved solids (TDS) - is a term that expresses the quantity of dissolved material in a sample of water.

Transmissivity (T) - is a measure of the ease with which groundwater flows in the subsurface. It is the two-dimensional form of hydraulic conductivity and is defined as the hydraulic conductivity multiplied by the saturated aquifer thickness.

DWA - Department of Water Affairs (Used to be DWAF)

EC - Electrical Conductivity (mS/m)

Fe - Iron (mg/l)

K - Hydraulic Conductivity (m/day)

mamsl - Metres above mean sea level

mbgl - Metres below ground level

NGA - National Groundwater Archive

S - Storativity

SO_4 - Sulphate (mg/l)

TDS - Total Dissolved Solids (mg/l)

EXECUTIVE SUMMARY

Sibanye Stillwater appointed GCS (Pty) Ltd to conduct a EMPr update in terms of a Section 102 amendment to the Southern Free State (SOFS) Mining Right Environmental Management Program. GCS (Pty) Ltd conducted a hydrogeological assessment (excluding drilling) in support of this amendment.

In 2018 an application in accordance with Section 102 of the Mineral and Petroleum Resources Development Act (Act No.28 of 2002) was lodged with the Department of Mineral Resources and Energy (DMRE) to incorporate a number of additional properties into the Southern Free State (SOFS) Mining right area.

The following properties are to be included into the existing mining right (FS 30/5/2/3/3/2/1 13335 MR)

- Remainder of Portion 1, 8, 9, 10, 14, 15, 18, 19, 22, 25, 28, 29 of the Farm Stilte No.138;
- Remainder of the Farm Dora No. 287;
- Portion of Remainder, Portion 1 of the Farm Mooiuitzig No. 352; and
- Portion of the Remainder of the Farm Schoonheid No.540.

Figure 3-2 shows locations in relation to the study area.

A baseline groundwater study was conducted by GCS (Pty) Ltd during May 2024 which included a desktop study of the proposed mining right extension, a hydrocensus and water quality analysis of groundwater samples from boreholes in the vicinity of the study area. In addition an analysis was made of potential inflow to the proposed mine working and the impact on thew ambient groundwater regime

The following findings were made with regards to the baseline conditions withing the proposed study area, which need to be taken into consideration for the groundwater study:

- A total of twenty-two (22) boreholes were identified during the hydrocensus conducted in May 2024 (Figure 4-1).
- Information gathered on these boreholes indicate that most boreholes are no longer in use due to most of the farms in the area being state owned and no longer used for agricultural purposes.
- Existing boreholes which are still operational are mostly used for water supply for domestic supply and livestock watering points. The local farmers rely on the groundwater sources for domestic use and livestock watering.

- A total of five (5) boreholes were sampled and sent to a laboratory for analysis. The boreholes are located around the perimeter of the proposed study area.
- Water sample results indicate general good groundwater quality, with the exception of elevated nitrate which are most likely caused by the application of fertilizer onto the lands for to aid with crop production.
- The Piper diagram drawn representing the chemistry of the groundwater samples in the study area indicates that the water can be classified as having calcium/magnesium bicarbonate compositions.
- All boreholes in the area are drilled into the Karoo aquifer. This aquifer is classified as a d2 type intergranular and fractured aquifer with yields ranging between 0.1 and 0.5 L/s (DWAF, 2000). The hydrocensus results indicate that no large-scale groundwater abstraction takes place from the Karoo aquifer.
- The aquifer conditions of the lower Witwatersrand aquifer, which the proposed underground mining works will be in, has largely not been characterized. According to Cogho *et al* (1992) the aquifer can be classified as a fractured rock aquifer with localised fracture flow. During the initial mining right assessment as well as the feasibility study, a transmissivity value of 10 m^2/day was assumed for modelling purposes.
- According to Cogho *et al* (1992), the Karoo and Witwatersrand aquifers are not connected. This is most probably due to the fact that none of the numerous faults in the Ventersdorp and Witwatersrand Supergroups, are present in the rocks of the Karoo supergroup. This is also evident from the hydrocensus, as no boreholes located in the Karoo aquifer indicate lowered groundwater levels as a result of nearby mines dewatering their underground workings in the Witwatersrand aquifer.
- Mining in the study area will occur at depths of between 550 and 1200 m below surface.
- With the Karoo and Witwatersrand aquifers not being connected, it is highly unlikely that the mining activities will influence groundwater users in the Karoo aquifer with regards to both water quantity and quality. No surface infrastructure will be present in the proposed mining extension which means that the Karoo aquifer will not be impacted shafts, adits or ventilation shaft.
- It is expected that there will be minor groundwater inflow into the proposed mining operations from the Witwatersrand aquifer during the construction and operational phase. Although the aquifer characteristics of the Witwatersrand aquifer is not clearly defined, it is possible to make assumptions as to the volumes of water that can be expected to flow into the mining area from current mine dewatering. Existing dewatering data and water balance from the nearby Beatrix and Oryx mines indicates an average groundwater inflow of 9900 m^3 per day into their respective shafts, with

a total inflow of 29 000 m^3 per day between the four existing shafts. Since these shafts are also located in the Witwatersrand aquifer, it can be estimated that similar inflows can be expected in the new proposed extension.

- Water levels in the mine will recover during the post-closure phase, depending on the level of interaction and dewatering of other nearby mines.

The following are groundwater management recommendations for Sibanye Stillwater, based on the results of the hydrogeological study:

- Regular water level readings must be taken (from probes and hand measurements) to monitor changes in the groundwater table. Existing boreholes in the study area can be used as monitoring points
- Monitoring boreholes should be installed on the boundaries of the proposed new mining right extension area where there are no existing boreholes. This is to ensure that mining activities are not impacting groundwater levels or groundwater quality in the area, which will negatively affect groundwater users who rely on this water source for domestic use and farming.
- It is recommended that all monitoring boreholes be monitored on a quarterly basis.
- Although there are no highly elevated constituents in the groundwater, with the exception of nitrate, it is recommended that the parameters used for analysis in this report is used for monitoring purposes..
- It is recommended that the data is stored in a dedicated database and that quarterly and annual reports are generated for mine management.

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1 INTRODUCTION

GCS Water and Environment (Pty) Ltd was contracted by Sibanye Stillwater to conduct a baseline hydrogeological investigation as part of an application for the amendment of the Environmental Management Program (EMPr) for the Southern Free State Mining Right.

In 2018 an application in accordance with Section 102 of the Mineral and Petroleum Resources Development Act (Act No.28 of 2002) was lodged with the Department of Mineral Resources and Energy (DMRE) to incorporate a number of additional properties into the SOFS Mining right area.

These properties have been identified as follows:

- Remainder of Portion 1, 8, 9, 10, 14, 15, 18, 19, 22, 25, 28, 29 of the Farm Stilte No.138;
- Remainder of the Farm Dora No. 287;
- Portion of Remainder, Portion 1 of the Farm Mooiuitzig No. 352;
- Portion of the Remainder of the Farm Schoonheid No.540; and
- Portion of Remainder of he Farm No. 562.

Figure 3-2 illustrates the farms in question and their locations in relation to the study area.

The inclusion of these properties into the Mining Right area through the Section 102 Application necessitates amendment to the EMPr that was issued with the granting of the mining right.

This amendment of the EMPr requires that a baseline hydrogeological study be conducted for the proposed extension to analyse the baseline groundwater conditions and resources within the area. The mining activities for the proposed extension will be restricted to the subsurface, with no shafts, waste rock dumps or Tailings Storage Facilities (TSF) to be present within the area.

2 METHODOLOGY

The following groundwater specialist work was undertaken:

- A hydrocensus field investigation;
- Measuring of in-situ physico-chemical parameters of boreholes during the hydrocensus;
- Collection of water samples from boreholes to assess the baseline groundwater conditions in the area; and
- Groundwater impact assessment and management plan (input into the Environmental Management Plan).

3 SITE DETAILS

3.1 Location

The additional portion being applied for through the Section 102 application, hereafter referred to as "The Site", is located in the Free State Province, approximately 6 km south of the town of Virginia. The closest village is Meloding, a portion of which is underlain by the the Site (Figure 3-2)

The proposed mining activities for the site will be entirely underground, meaning that there will be no infrastructure on surface. The underground mine workings are proposed to be between 550 and 1200 meters below ground level.

3.2 Climate & Rainfall

The Site is situated at an elevation of approximately 1360 – 1380 mamsl.

The area falls within the dry Highveld grassland and in the summer rainfall region of South Africa. The climate is typical of a continental plateau with a wide diurnal temperature range. Winters are cold to mild with occasional severe frost, with temperatures ranging from 0 degrees to 22 degrees centigrade. Summers are hot with temperatures varying from 11 degrees to 32 degrees centigrade.

Thunderstorms are frequent in the southern Free State with infrequent hail storms. Snowfalls have been recorded only once in the last 40 years. The climate conditions in South Africa enable exploration and mining operations to be conducted throughout the year.

The proposed expansion area falls within the C4C rain zone and on the contact of three quaternary catchments, namely C42H, C42K and C42J.

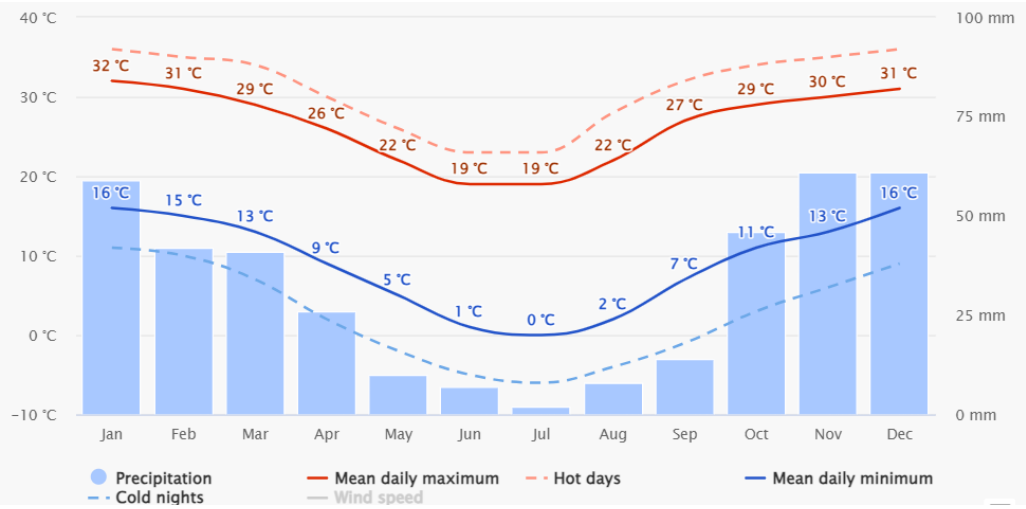

Figure 3-1: Average temperatures and precipitation for Virginia, Free-State (Source: Meteoblue, 2024)

Precipitation data for the last thirty years for Virginia indicate that the average rainfall is approximately 377 mm per year. The largest portion of the mining right extension area falls within quaternary catchment C42J. The mean annual precipitation for this catchment is 529.8 mm per annum. The mean annual evaporation for the catchment is approximately 1600 mm per year.

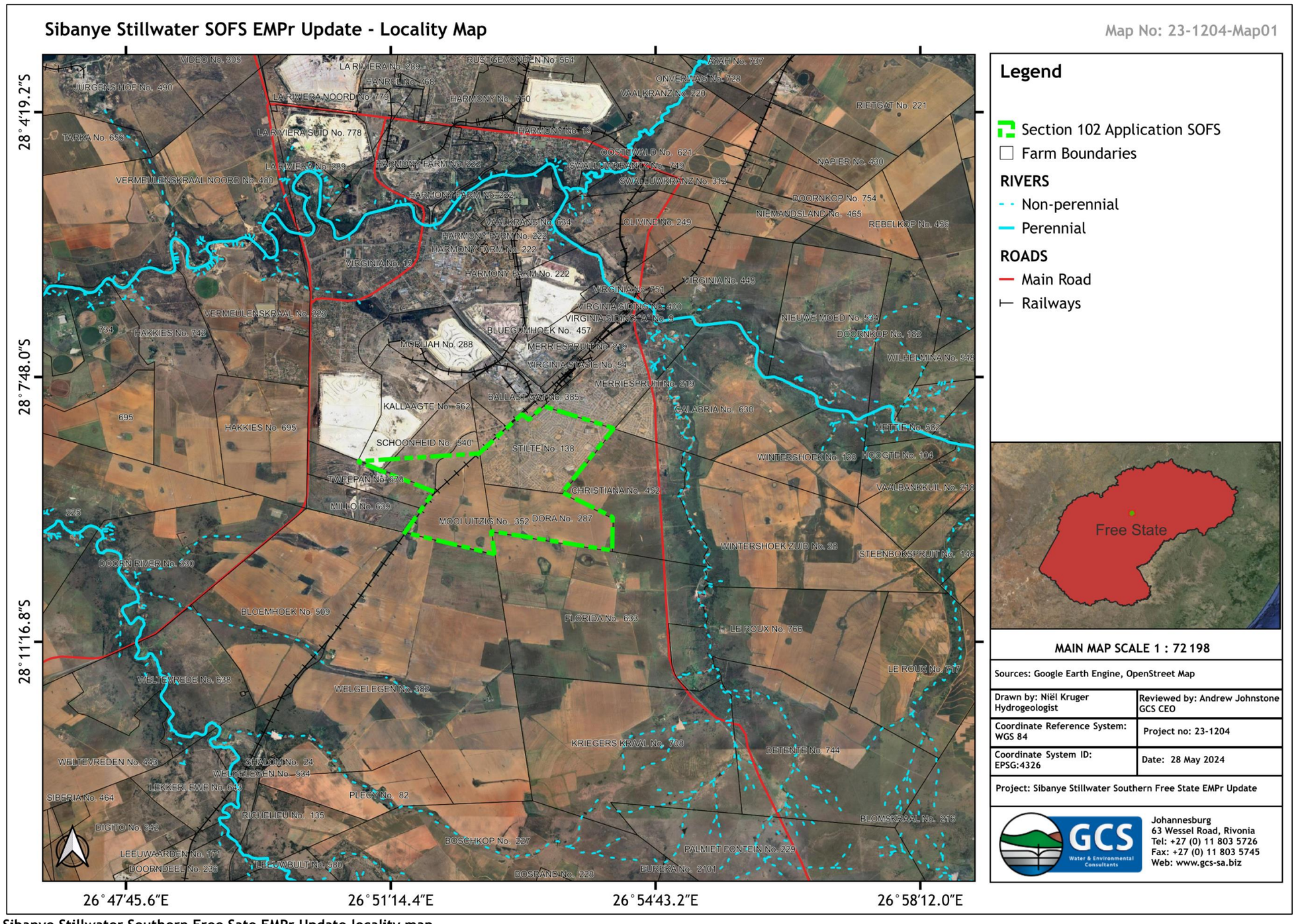

Figure 3-2: Sibanye Stillwater Southern Free Sate EMPr Update locality map

3.3 Geological Setting

3.3.1 Regional Geology

The proposed extension to the Sibanye Stillwater SOFS mining right is part of the southern Free State Goldfields, centred close to the town of Virginia. It stretches east to west across the axis of a large north-easterly plunging synform representing the southern closure of the Central Rand Group of the Witwatersrand Supergroup. Structural deformation is dominated by numerous approximately north-south trending normal faults which predominantly downthrown to the west (Cunningham and Spindler, 2009).

3.3.2 Local Geology

The rocks of the Karoo Supergroup, overlain by a thin layer of Quaternary sand (Q-s) extend over the project area at surface as indicated in Figure 3-3 At surface the Karoo consists of the Adelaide Subgroup (Pa) (Permian age) of the Beaufort Group, comprising mostly of mudstone and shale with subordinate sandstone. During the initial mining rights application, Wits Gold drilled a number of exploration boreholes, which fall within the new proposed extension, as well as in areas near the border of this extension. These boreholes were used to confirm the depths of the Karoo rocks as well as to confirm the presence of geological structures and significant ore bodies. According to the drill logs of these exploration boreholes the thickness of the Karoo rocks varies between 258 and 655 m. (GCS Report – 11-0449 De Bron – Merriespruit South Groundwater Study EIA Report, 2012).

During late Jurassic times the Karoo strata was intruded by dolerite (J-d). These intrusions (highlighted in purple) mainly occur in the northern and southeastern sections of the study area. This intrusion into Karoo strata caused the weakening of those lithologies at the contact zone, which resulted in preferential flow paths for groundwater.

Below the Karoo Sequence the stratigraphy of the Ventersdorp Supergroup can be found. The Ventersdorp strata are underlain by the economically important Central Rand Group of the Witwatersrand Supergroup, which comprises the Johannesburg and Turffontein Subgroups of the Central Rand Group. In the Johannesburg Subgroup, five unconformity bounded sequences (UBS's) have been recognised, with the Virginia Formation at the base, passing upwards into the St Helena, Welkom, Harmony and Dagbreek Formations.

Gold and uranium bearing conglomerates are developed on the basal unconformities of each of these subdivisions, including the Leader Reef (Dagbreek Formation), the B Reef (Spes Bona Formation), the Kalkoenkrans Reef (Aandenk Formation) and the Beatrix/VS5 Reef (Eldorado Formation).

Cunningham and Spindler (2009) reconstructed the Central Rand Group stratigraphy in the southern Free State Goldfield indicating a progressive southerly thinning of the sequence into the project area (see Figure 3-4). They related this attenuation of the Central Rand Group to uplift during the latter phase of deposition in the Basin, causing erosion by superimposed, on lapping unconformities. These erosional relationships and the resulting sub-cropping of strata are probably the primary control on the distribution of the four gold bearing reefs within the proposed project area.

3.3.3 Structural Geology

The Beatrix/VS5 unconformity at the base of the Eldorado Formation is developed across the entire southern Free State Goldfield and therefore represents a reference surface for the construction of the structural map of the area. The Central Rand Group within the southern Free State Goldfield is deformed in a broad syncline, with smaller parasitic folds marking the southern limit of the prospective Witwatersrand Basin. This compression was responsible for active uplift towards the southern margin of the Goldfield that resulted in a complex interplay between a series of superimposed unconformity surfaces. Repeated erosion of the footwall sequences caused the incorporation of this detritus into the reefs overlying the unconformities. The north-easterly- plunging fold has been off-set by later normal faults related to the regional Platberg age extensional event. The normal faults generally strike north-south, the most significant being the De Bron Fault, which has a relative down-throw of more than 1000 m towards the west. The De Bron Fault forms the natural western boundary of the De Bron study area. A series of smaller thrust faults, that cause only minor stratigraphical duplication trends northeast-southwest.

The De Bron Fault is Platberg in age, younger than the Wits and the Ventersdorp Lavas and therefore displaces both. To a large extent it also controls the distribution of the Platberg Graben sediments which forms thick deposits in the graben west of the fault, but not to such an extent on the horst underlying the project area. (GCS Report – 11-0449 De Bron – Merriespruit South Groundwater Study EIA Report, 2012).

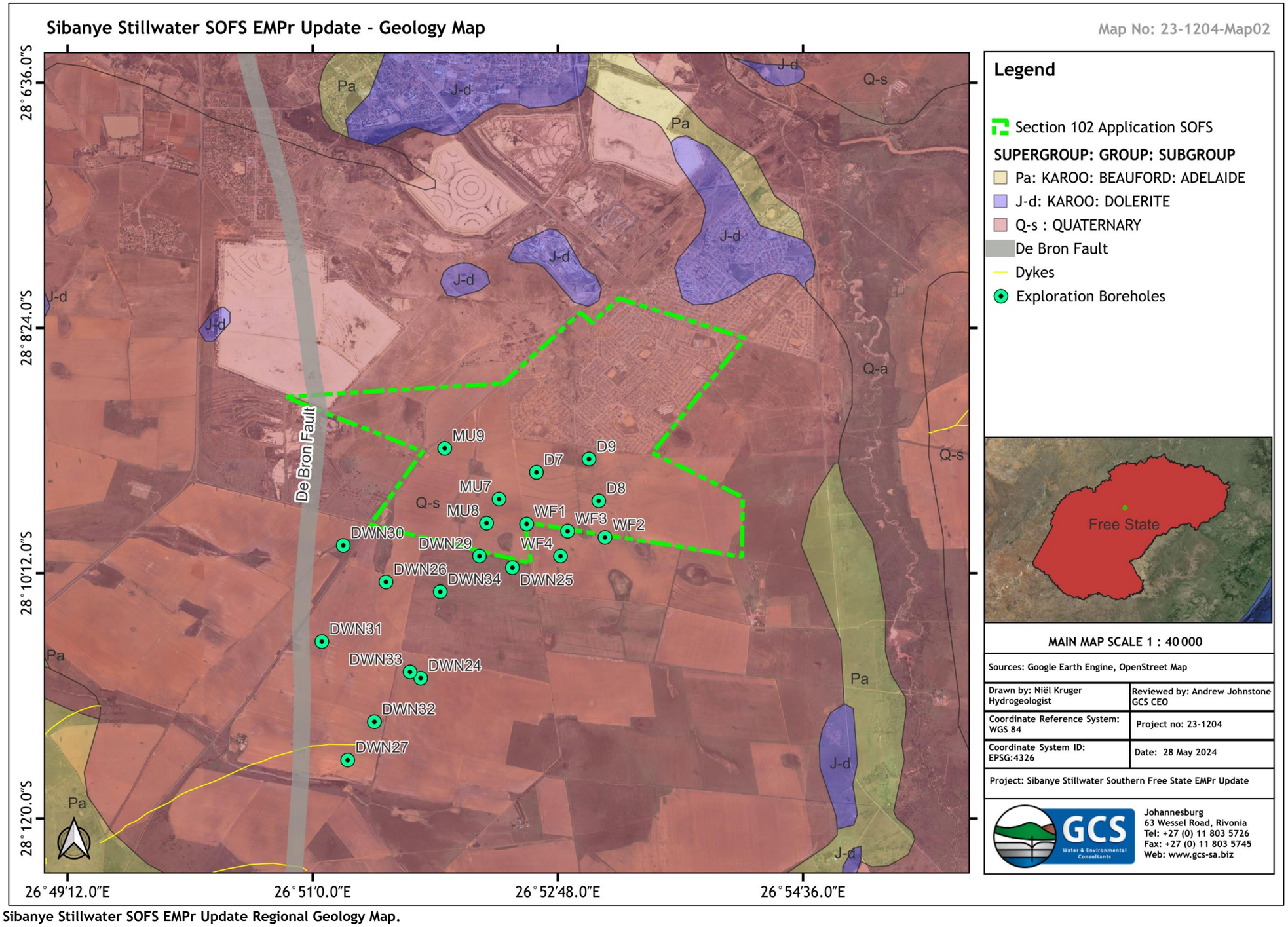

Figure 3-3: Sibanye Stillwater SOFS EMPr Update Regional Geology Map.

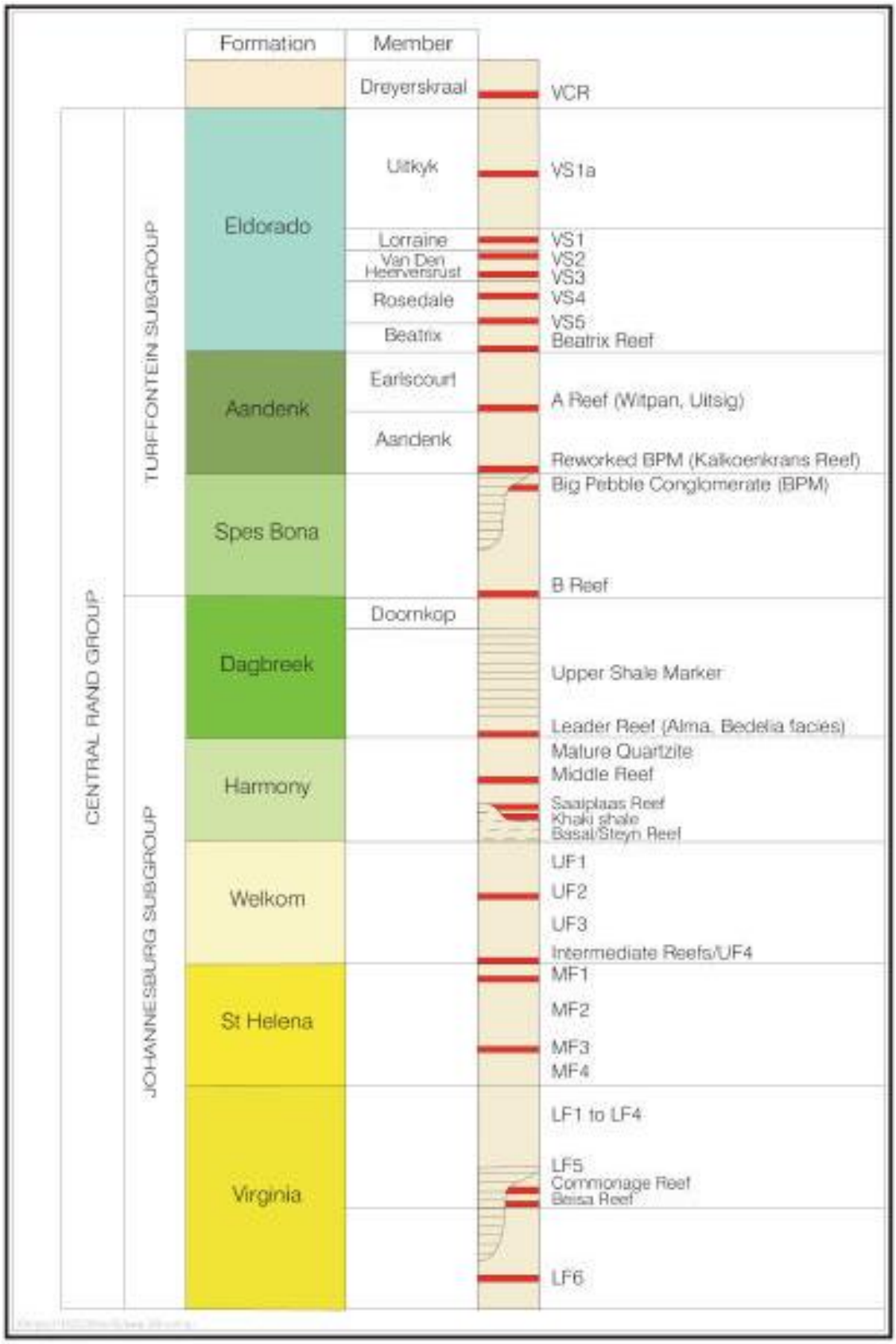

Figure 3-4: General stratigraphy for the Southern Free State (pre Karoo) after Cunningham and Spindler, 2009

4 BASELINE INVESTIGATION

4.1 Hydrocensus

During May 2024 GCS undertook a hydrocensus investigation within the boundaries of farms that are located in the new proposed mining extension, as well as farms located directly adjacent to the boundary of the new development. A buffer of 1 km from the development boundary was investigated during the hydrocensus. The purpose of the investigation was to establish the extent of groundwater use, borehole yields and groundwater quality within the project area, to form a baseline understanding of the general groundwater conditions in the study area.

Water samples from boreholes were collected for analysis and where possible, the water levels were measured (many supply points were equipped with pumps, which made taking water levels impossible). Details of boreholes that were identified are presented in Table 4-1.

Boreholes are predominantly used for domestic water supply to farmers and their farm workers. A large proportion of boreholes that were identified are equipped with wind pumps, mono pumps and submersible pumps. Many of the farms in the area are no longer owned by individual farmers but have been sold and are now owned by the state. Due to this most of the boreholes identified during the hydrocensus are destroyed, blocked or collapsed and are thus no longer in use.

The following information was obtained regarding specific farming operations:

The farms Christiana 452, Niel and Florida 633 are owned and operated by Mr. Pienaar. Boreholes located on these properties are mostly in use, and equipped with either windpumps, mono pumps or submersible pumps. These boreholes are mainly used to supply water to nearby dams on the farm, water for livestock and domestic supply to the farmhouses and the houses of farm workers. On the farm Christiana 452 two boreholes can be found next to an old church. Only one of the boreholes are being used for watering small vegetable gardens on the property. The other borehole is not in use

The farms Dora 287, Mooi Uitzig 352, Welgelegen 382, Bloemhoek 589, Millo 639, Tweepan 678 and Schoonheid 540 are currently state owned. The boreholes that could be found on these farms are mostly destroyed, blocked or collapsed and are not in use.

Farms Stilte 138 and Merriespruit 219 form part of the Melloding informal settlement. No boreholes could be located in this area.

To the north-west of the study area on the farm Ballast Gat 389, an industrial area for the town of Virginia can be found. Two boreholes were identified in this area, where the groundwater is mostly used to wash machine parts for an engineering workshop and domestic supply to a plastic factory.

Table 4-1: Private borehole water users

Borehole ID	Coordinates		Borehole Depth (mbgl)	Elevation (mamsl)	Groundwater levels		Approximate Yield (L/hr)	Sampled	Comments
	X	Y			mbgl	mamsl			
HCBH1	26.914267°	-28.149645°	30	1368.75	-		~2500	Yes	Church. Farm Christiana. pH=7.29, EC=643 uS/cm
HCBH2	26.91426	-28.149589	Unk	1365.48	-		-	No	Not in use
HCBH3	26.900081°	-28.192094°	Unk	1426	-		-	No	Mono Pump installed. Not in use
HCBH4	26.899877°	-28.191980°	Unk	1426.93	-		Unk	Yes	Windpump. Pumping water to 2 nearby dams . pH=7.02, EC=527 uS/cm
HCBH5	26.899860°	-28.191767°	Unk	1427.18	-		Dry	No	Old windpump. Not in use
HCBH6	26.907230°	-28.192438°	Unk	1425.18	-		-	No	Mono pump installed. Not in use
HCBH7	26.911727°	-28.192791°	Unk	1422.73	11.5	1411.23	Unk	No	Windpump. Pumping water to nearby dam
HCBH8	26.908028°	-28.161830°	6.8	1387.19	-		Dry	No	Borehole blocked with rocks
HCBH9	26.908086°	-28.161844°	4.7	1385.59	-		Dry	No	Borehole blocked with rocks
HCBH10	26.908166°	-28.161836°	Unk	1386.37	-		Dry	No	Borehole blocked with bees
HCBH11	26.904989°	-28.176657°	Unk	1413.06	-		Unk	No	Submersible pump installed. Supply water to workers houses
HCBH12	26.904793°	-28.173709°	Unk	1411.29	-		Unk	Yes	Mono Pump installed. Supply water to house and cattle. pH= 6.47, EC= 661 uS/cm
HCBH13	26.903625°	-28.174873°	Unk	1410.02	-		Unk	No	Submersible pump installed. Supply water to main house
HCBH14	26.904911°	-28.175867°	Unk	1399.37	-		Unk	No	Submersible pump installed. Supply water to workers houses
HCBH15	26.905171°	-28.175833°	Unk	1413.68	-		Unk	No	Windpump. Supply water to nearby dam
HCBH16	26.867931°	-28.136539°	0.3	1360.43	-		Dry	No	Borehole blocked
HCBH17	26.861574°	-28.155358°	8.15	1396.3	5.65	1390.65	Unk	No	Abandoned borehole in field. Not equipped
HCBH18	26.866518°	-28.161271°	1	1402.94	-		Dry	No	Old borehole in the field. Collapsed
HCBH19	26.858223°	-28.169224°	40	1408.51	1.51	1407	7200	Yes	Borehole at farmhouse. Supply water to household pH=6.94, EC=696 uS/cm
HCBH20	26.857323°	-28.160169°	Unk	1399.88	-		Dry	No	Abandoned borehole in the field. Blocked with rocks
HCBH21	26.878581°	-28.127746°	Unk	1359.92	-		Unk	Yes	Borehole at engineering workshop. Water used to wash machine parts. pH=652, EC= 14320 uS/cm
HCBH22	26.877739°	-28.129811°	Unk	1353.73	-		Unk	No	Borehole at plastic warehouse. Water used for domestic use and gardens

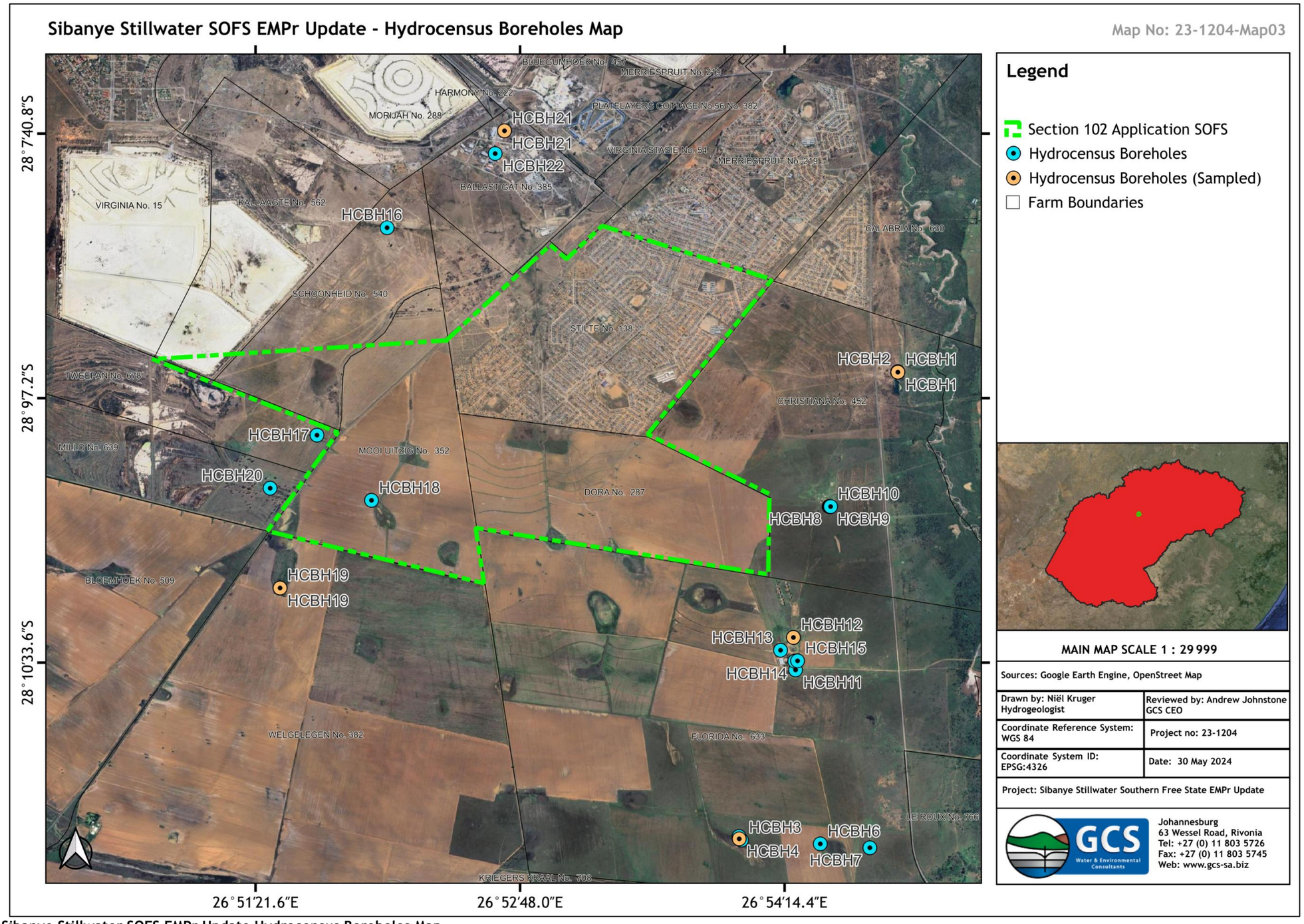

Figure 4-1: Sibanye Stillwater SOFS EMPr Update Hydrocensus Boreholes Map

4.2 Other Existing Groundwater Use

The Department of Water and Sanitation's (DWS) National Groundwater Archive (NGA) was also used in an attempt to locate any other existing groundwater users or boreholes in the study area. According to the database no other registered groundwater use exists within the study area or its immediate surroundings.

4.3 Aquifer Description

According to Cogho *et al* (1992) two aquifers occur within the study area, namely:

- A shallow aquifer which lies within the weathered and fractured zones of the Karoo sediments; and
- The deeper fractured rock aquifer within the Ventersdorp and Witwatersrand rocks.

Cogho *et al*. (1992) reports that no obvious hydraulic connection exists between the two aquifers. One of the major reasons for this phenomenon may be the fact that none of the numerous faults that occur in the Ventersdorp and the Witwatersrand rocks can be detected in the Karoo sediments. The hydrocensus also adds insight into the connectivity of the two aquifers and confirms that there is no obvious connection within the study area, since there are no boreholes (which are drilled into the Karoo aquifer) that indicate lowered water levels. If the two aquifers were connected a decrease in water levels will have been noted in boreholes drilled into the Karoo aquifer, since the nearby mines dewater their underground workings for mining to occur. Due to the absence of faults and the compaction of the sediments, the permeability of the Karoo sediments will be low and groundwater movement will be negligible. However, in the Allanridge region where the Ventersdorp rocks outcrop, vertical leakage between the two aquifers may be possible.

4.3.1 Karoo rock aquifer

According to a WRC report (Report No 224/1/92) a historical borehole survey indicates that the occurrence of groundwater in the shallow aquifer is geologically controlled. Boreholes with moderate to high yields are associated with the intrusion of dolerite.

Historical drilling results (from the initial mining rights application) do not indicate a defined intergranular or weathered aquifer, followed by a distinct fractured aquifer with depth. It is however concluded that both weathering and fracturing contribute to aquifer development with no distinct aquifer units based on weathering and fracturing. The hydrogeological map of Kroonstad 2726, as indicated in Figure 4-2, classifies the aquifer as a d2 type aquifer (intergranular and fractured) with yields typically ranging between 0.1 and 0.5 L/s (DWAF, 2000). Drilling results within the DBM site suggests that only low yielding aquifers exist within the predominantly mudstone/shale rock (Adelaide Subgroup of the Beaufort Group). The

hydrocensus results also showed that no large-scale groundwater abstraction takes place from the Karoo aquifer, most likely a reflection of the relatively low aquifer potential.
No site data on the aquifer potential of the deeper Karoo strata was available. Active aquifer systems are likely to decrease with depth with insignificant interaction between the Karoo and deeper Witwatersrand aquifer system.

The potential (safe) yield from an aquifer is linked directly to the recharge it effectively receives. Groundwater recharge is firstly dependent on rainfall. Effective recharge is that part of the daily rainfall which seeps into the ground after allowing for losses through interception by vegetation and by runoff. Of the effective rainfall, only a small fraction infiltrates down to the saturated zone and successfully recharges the groundwater source. The lower the rainfall, the more variable and uncertain recharge is.

Research has been done to try and quantify groundwater recharge, making use of various recharge determination methods. The typical values reported for recharge in the Karoo aquifers vary between 1% and 3% (Sami, 2003). According to Vegter (1995) the groundwater recharge for the Karoo is between 2.5% and 3.5% of Mean Annual Precipitation (MAP). A slightly more conservative value of 1% of MAP is used in this report. This is due to the prevalent occurrence of mudstone in the study area as well as an unsaturated layer of up to 20m thick which is present on site.

4.3.2 Witwatersrand aquifer

According to the GCS Report – 11-0449 De Bron – Merriespruit South Groundwater Study EIA Report (2012) the fracturing and faulting in the competent Witwatersrand Group resulted in the development of a relatively moderate yielding aquifer. At the nearby existing mine workings of the Beatrix and Oryx mines, a total of 29 000 m^3 per day flows into the existing underground workings. An average inflow of 9900 m^3 per shaft occurs per day according to the water balance of the Beatrix and Oryx mines. Since the Witwatersrand aquifer is a fractured rock aquifer the amount of inflow will be based on fracture occurrence and yield, which is reflected in the inflow data from the existing mine workings, where some shafts experience no groundwater inflow, and others experience inflow of about 15 000m^3 per day

Currently no site information exists of aquifer yields, hydraulic parameters and the piezometric table within the Ventersdorp and Witwatersrand Supergroup, however a transmissivity of 10m^2 per day was assumed for modelling purposes during the mines initial feasibility study.

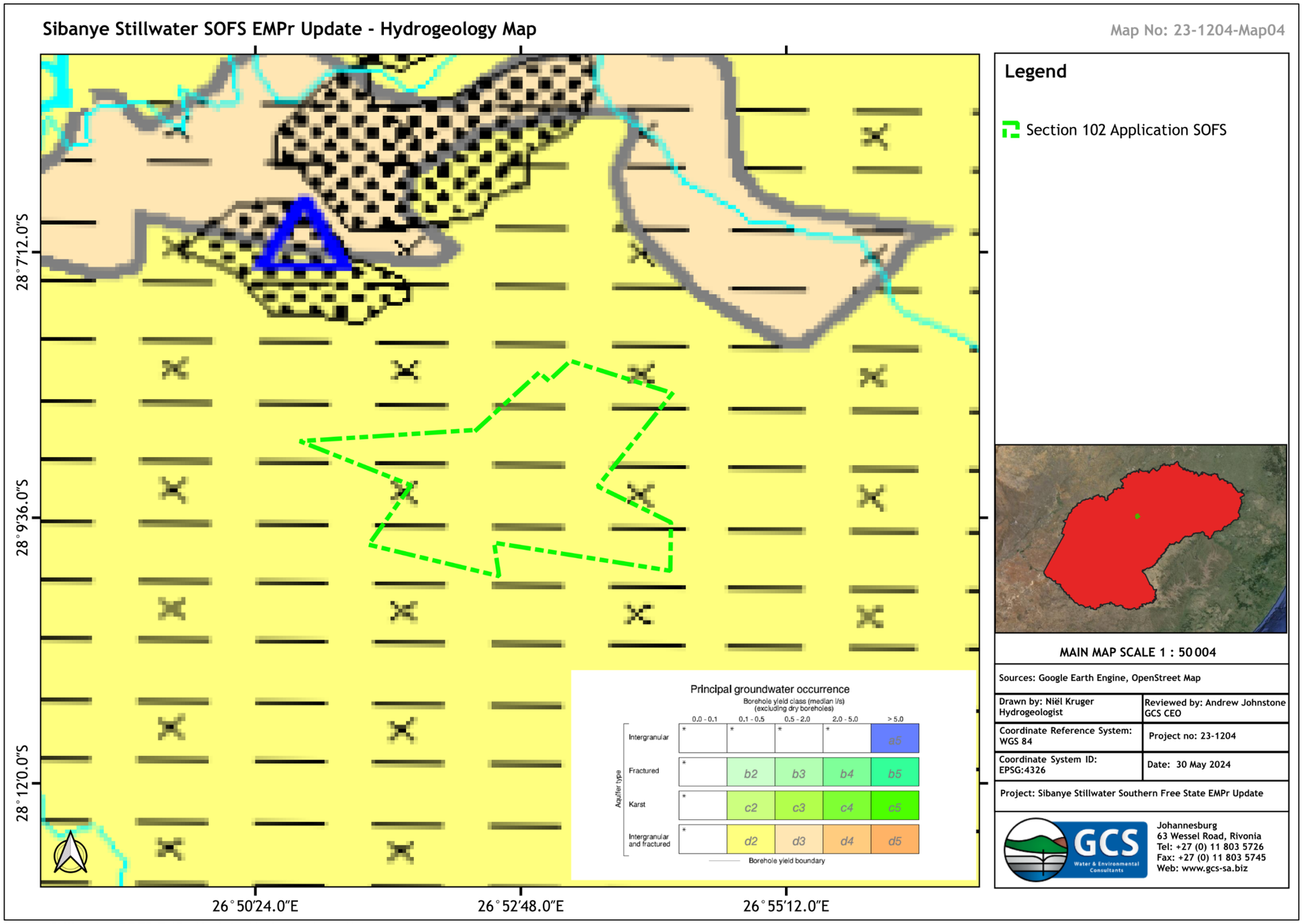

Figure 4-2: Sibanye Stillwater SOFS EMPr Update Hydrogeology Map

4.3.3 Groundwater Levels

Groundwater level data is shown Table 4-1. Only 3 groundwater levels could be measured during the hydrocensus.

Figure 4-3 indicates the correlation between groundwater level versus topography. Due to the limited number of groundwater levels the accuracy of the correlation factor might not be an accurate representation of groundwater level as compared to topography for the study area. Nonetheless, a relatively good correlation factor exists between the surface topography and static groundwater levels (86.8% correlation factor).

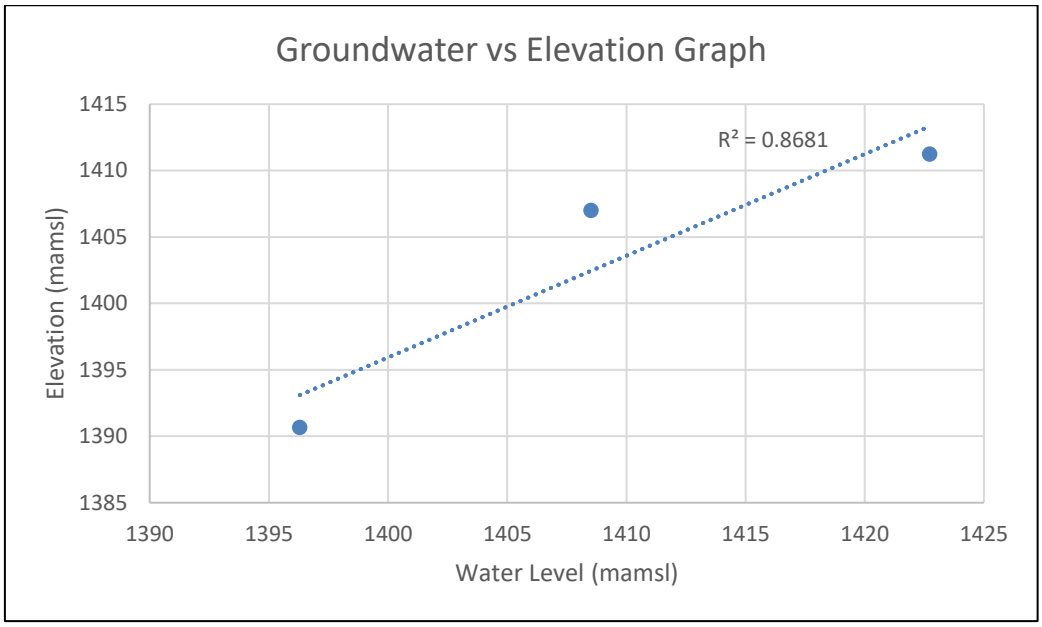

Figure 4-3: Groundwater level vs. topography trend graph

Due to the limited static water level data, it is not possible to draw a reliable groundwater flow map for the study area. However, it can be assumed from the location of the study area within its specific catchment (C42J) that the predominant groundwater flow for the majority of the study area will be in a north to north-westerly direction towards the Sand River. A very small section to the east of the proposed new mining right extension falls within catchment C42H. Groundwater in this section will flow predominantly in an easterly direction towards the Merriespruit. Likewise, very small section on the southern border of the new extension falls within catchment C42K. Groundwater in this area will flow in a southern and southwestern direction towards the Doringrivier. Figure 4-4 indicates the study area in relation to the applicable catchments.

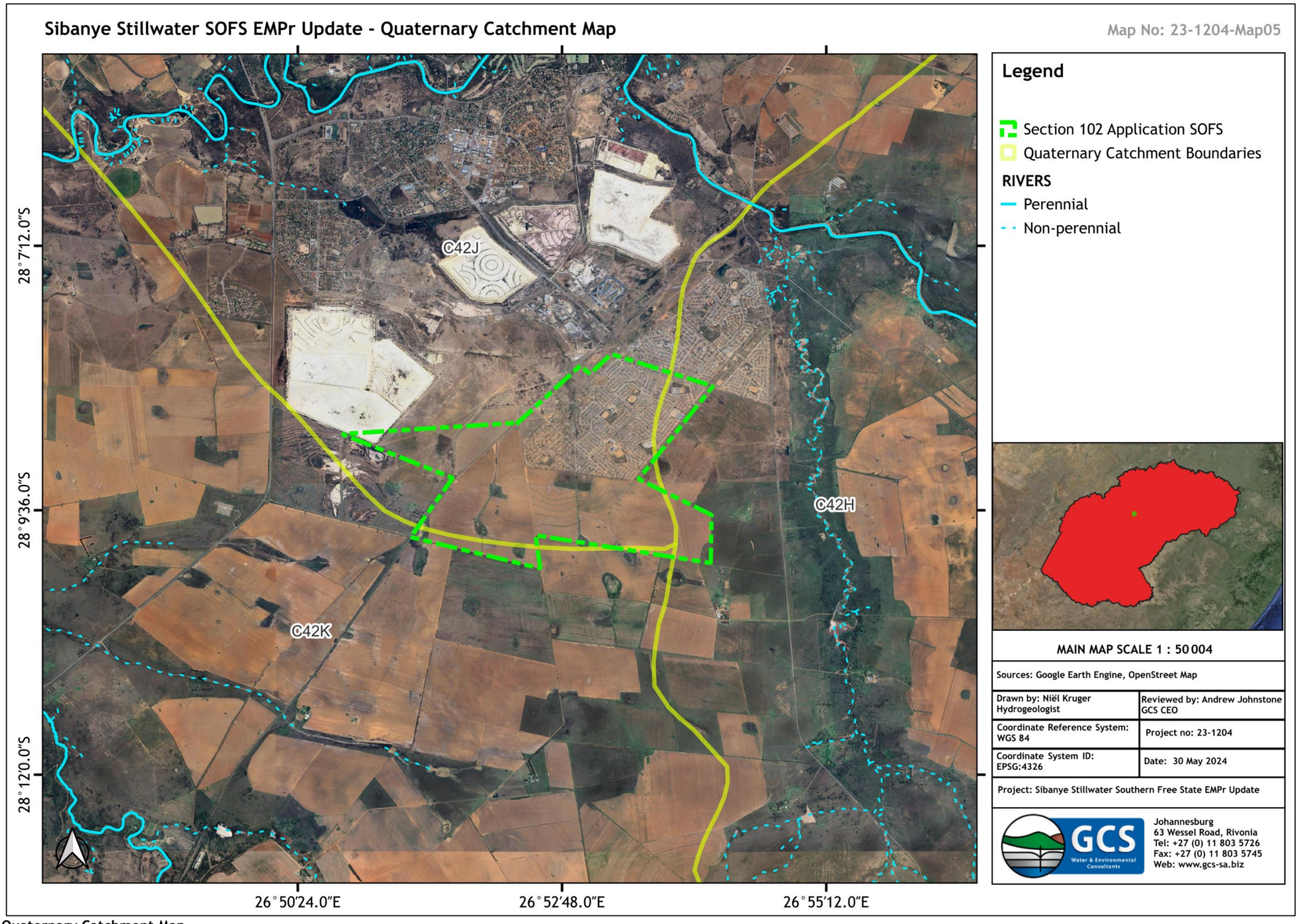

Figure 4-4: Quaternary Catchment Map

4.4 Groundwater Quality

Five (5) groundwater samples were collected during the hydrocensus investigation in May 2024 and analysed for the constituents in Table 4-3. The water samples obtained mainly represented samples from production wells which are mainly used for domestic water supply and livestock watering. The hydrocensus groundwater quality results are outlined in Table 4-3 4-3. In-situ physico-chemical parameters were also measured during the hydrocensus to obtain a preliminary understanding of groundwater quality conditions in the area. Table 4-2 indicates the physico chemical parameters measured during the hydrocensus

In general, the water quality of the samples indicated by the physico-chemical measurements represents good water quality, complying with both the compliance objectives except for HCBH21 which indicated a very high Electrical Conductivity (EC) of 14 320 uS/cm. Other than this anomaly the pH and EC for the remaining samples satisfy the requirements.

Table 4-2 Physico-chemical measurements of boreholes sampled during the hydrocensus

BH ID	Coordinates		pH	EC (uS/m)	TDS (mg/L)
	X	Y			
HCBH1	26.914267	-28.149645	7.29	64.3	411.52
HCBH4	26.899877	-28.191980	7.02	52.7	337.28
HCBH12	26.904793	-28.173709	6.47	66.1	423.04
HCBH19	26.858223	-28.169224	6.94	96.9	620.16
HCBH21	26.878581	-28.127746	6.52	1432	916.48

Water quality results obtained from the laboratory after analysis indicate relatively good water quality for all boreholes sampled. The only exceedances are with calcium, magnesium and nitrate as NO_3 concentrations.

All the boreholes indicate calcium concentrations that exceed the SAWQG limit. The SANS 241:2015 drinking water standards do not specify a limit for calcium concentrations in groundwater. This exceedance will most likely not have any health effects but are worthy to make a note of. HCBH21 indicates elevated magnesium concentrations. Similar to calcium, this only exceeds the SAWQG and SANS 241:2015 does not specify a concentration limit for magnesium. Again, this exceedance should not cause any adverse health effects. All boreholes indicate elevated nitrate concentrations.

Nitrate concentrations far exceed the limits set out by the SAWQG and SANS 241:2015 standards, indicating concentrations nearly four times higher than the maximum allowable limit in some samples. The elevated nitrates in the groundwater samples can be attributed to high agricultural activity, which can lead to elevated nitrate concentrations due to the use of fertilizers or pesticides.

Alkalinity concentrations indicate that all groundwater samples can be classified as hard to very hard water. Excessively hard water can cause scaling in heat exchange surfaces such as cooking utensils, hot water pipes, kettles and geysers (SAWQG, 1996)

Table 4-3: Hydrocensus water quality analysis results

Parameter (mg/l)	DWA SAWQG Domestic Water (Target Values)	SANS 241-1: 2015 Drinking Water Standards (Max Allowable)	HCBH1	HCBH4	HCBH12	HCBH19	HCBH21
Date			May 24	May 24	May 24	May 24	May 24
pH at 22°C	6-9	5-9.7	7.9	7.2	8.3	7.5	7.2
Conductivity mS/m @ 25°C	<70	<170	66	55	57	62	66
Total Dissolved Solids	<450	<1200	460	390	400	440	470
Calcium, Ca	<32	NS	67	62	73	78	100
Magnesium, Mg	<30	NS	28	22	27	24	54
Sodium, Na	<100	<200	60	51	53	74	33
Potassium, K	<50	NS	4.9	8	11	9.5	2.7
Total alkalinity	NS	NS	290	290	280	330	330
Bicarbonate alkalinity	NS	NS	290	290	280	330	330
Bicarbonate, HCO_3	NS	NS	354	354	342	403	403
Chloride, Cl	<100	<300	31	21	35	33	51
Sulfate, SO_4	<200	<250	36	16	27	40	108
Nitrate as NO_3	<6	<11	48	21	66	45	30
Nitrate as NO_2	<6	<0.9	<0.05	<0.05	<0.05	<0.05	<0.5
Fluoride,F	1	1.5	0.34	0.22	0.23	0.21	0.1
Aluminium, Al	<0.15	<0.3	<0.02	<0.02	<0.02	<0.02	<0.02
Manganese, Mn	<0.05	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01

Parameter (mg/l)	DWA SAWQG Domestic Water (Target Values)	SANS 241-1: 2011 Drinking Water Standards (Max Allowable)	HCBH1	HCBH4	HCBH12	HCBH19	HCBH21
Iron, Fe	**<0.1**	**<0.3**	<0.05	<0.05	<0.05	<0.05	<0.05
Vanadium, V	**<0.1**	**NS**	<0.001	<0.001	0.005	<0.001	0.008
Zinc, Zn	**<3**	**<5**	<0.01	0.20	<0.01	0.01	0.06
Lead, Pb	**<0.01**	**<0.01**	<0.01	<0.01	<0.01	<0.01	<0.01
Antimony, Sb	**NS**	**<0.02**	<0.01	<0.01	<0.01	<0.01	<0.01
Copper, Cu	**<1.0**	**2.0**	<0.02	<0.02	<0.02	<0.02	0.02
Arsenic, As	**<0.01**	**<0.01**	0.01	<0.01	<0.01	<0.01	<0.01
Barium, Ba	**NS**	**<0.7**	0.048	0.042	0.053	0.033	0.027
Boron, B	**NS**	**<2.4**	0.063	0.067	0.066	0.086	0.14
Cadmium, Cd	**<0.005**	**<0.003**	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium, Cr	**<0.05**	**<0.05**	<0.002	<0.002	<0.002	<0.002	0.005
Nickel, Ni	**NS**	**<0.07**	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium, Se	**<0.02**	**<0.04**	<0.01	<0.01	<0.01	<0.01	<0.01
Strontium, Sr	**NS**	**NS**	0.62	0.53	0.61	0.87	0.33
Uranium, U	**<0.03**	**<0.03**	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury, Hg	**<0.001**	**<0.006**	<0.001	<0.001	<0.001	<0.001	<0.001
Suspended solids	**NS**	**NS**	<21	<21	<21	<21	<21

Class I	**Acceptable**
Class II	**Max. Allowable**
Class III	**Exceeding**
*	***Results not accepted due to analysis problem***

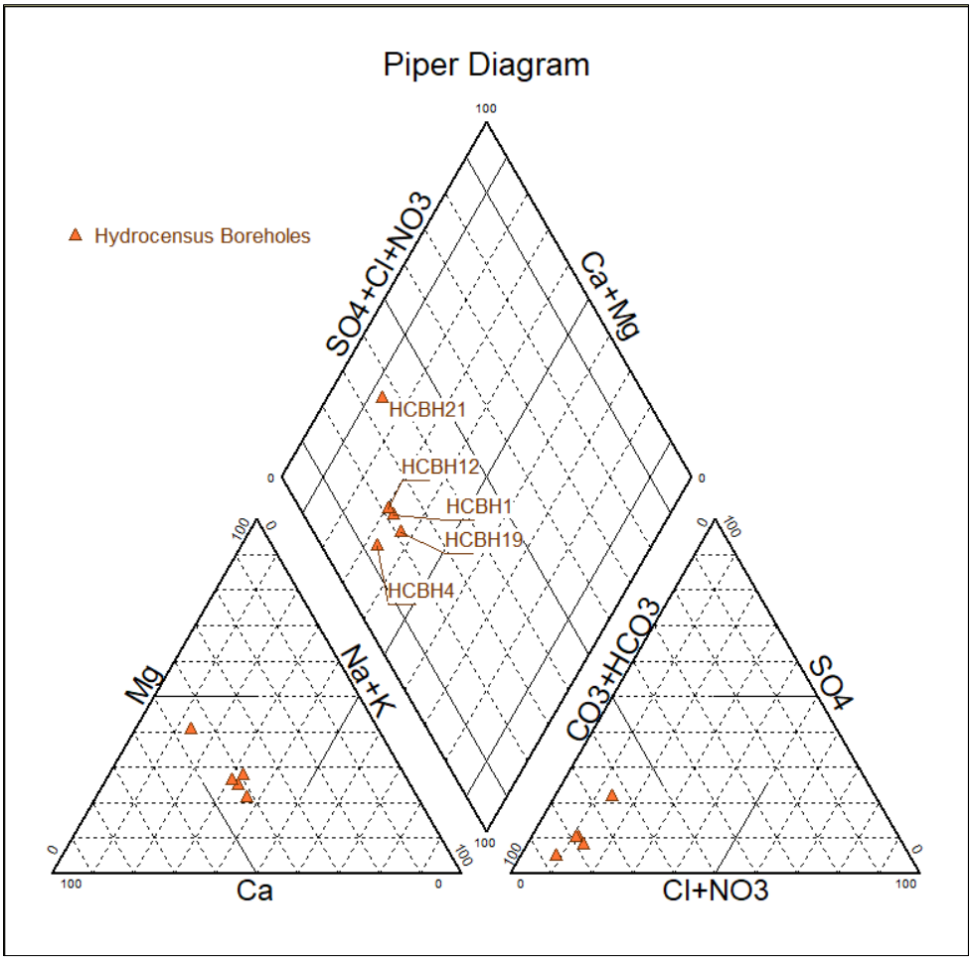

Figure 4-5: Piper Plot of the hydrocensus data to indicate different sources and qualities of the groundwater samples

The piper diagram is used to assess the composition of cations and anions in a groundwater sample to determine the sources of water. It is a useful tool in developing an understanding of the chemistry of water. Figure 4-5 indicates the positions of the five sampled boreholes on the Piper diagram. The diagram indicates that all five water samples are classified as water with calcium/magnesium bicarbonate compositions.

5 CONCLUSIONS

GCS Water and Environment (Pty) Ltd was contracted by Sibanye Stillwater to conduct a baseline hydrogeological investigation as part of an application for the amendment of the Environmental Management Program (EMPr) for the Southern Free State Mining Right.

5.1 Baseline Conditions:

- A hydrocensus was conducted by GCS Water and Environment (Pty) Ltd in order to collect existing groundwater data and assess the baseline groundwater conditions in the area.
- A total of twenty-two (22) boreholes were identified during the hydrocensus, of which 9 were operational and being used mainly for domestic purposes and watering of livestock. Boreholes are mainly equipped with windpumps, mono pumps and submersible pumps with no large-scale groundwater abstraction occurring.
- It can be concluded that groundwater users in the area are limited, and if present groundwater abstraction is minimal.
- Based on limited existing groundwater level data, a linear relationship (86.8% correlation factor) between the groundwater table and surface topography exists. Groundwater levels within the project area vary between 1390 – 1412 mamsl.
- A total of five (5) groundwater samples were collected during the hydrocensus. In-situ physico-chemical measurements indicated a good groundwater quality, except for HCBH21, which had a very high Electrical Conductivity value of 1432 uS/m
- All boreholes sampled indicate relatively good water quality. Only calcium, magnesium and nitrate indicate elevated concentrations. The groundwater in the area can be classified as hard to very hard water.
- The Piper diagram indicates the groundwater in the area can be classified as water consisting of calcium/magnesium bicarbonate compositions.
- Mining in the proposed extension area will be completely underground and will occur at depths of between 550 and 1200 m. There will be no surface infrastructure such as shafts, tailings storage facilities or mine rock dumps present in the area.
- Considering that mining will occur at depths greater than 550 m and that the Karoo aquifer and the Witwatersrand aquifer are not connected, it is unlikely that there will be any impacts on groundwater users in the area, as most boreholes in the area are drilled within the Karoo aquifer.
- The only possible influence regarding groundwater will be inflow into the underground mine workings within the Witwatersrand aquifer.

5.2 Expected groundwater impacts caused by mining

5.2.1 Construction Phase

Since there will be no official surface construction during the mining of the area, groundwater impacts from the Karoo aquifer are negligible. Water inflow from the Witwatersrand aquifer will be a factor, however. The underground workings will need to be dewatered for mining to occur.

5.2.2 Operational Phase

The single largest risk in terms of groundwater impacts during the operational mining phase is that of aquifer dewatering of the deeper lying Witwatersrand Complex. Despite the dewatering volumes, no groundwater users would be affected, as the deeper lying Witwatersrand aquifer is isolated from the upper Karoo aquifer.

5.2.3 Post Closure Phase

The groundwater levels in the underground mining area will probably recover during the decommissioning and post-closure phases when mine dewatering is stopped. The groundwater level recovery will depend on a) the extent of interaction and b) dewatering of neighboring mines.

6 MANAGEMENT RECOMMENDATIONS

The following are groundwater management recommendations for Sibanye Stillwater, based on the results of the hydrogeological study:

6.1.1 Monitoring

- Regular water level readings must be taken (from probes and hand measurements) to monitor changes in the groundwater table. If possible, these boreholes should be placed throughout the mine to assess the regional groundwater table.
- Monitoring boreholes should be installed on the boundaries of the proposed new mining right extension area as well as around the perimeter of the entire proposed SOFS mining area. This is to ensure that mining activities are not impacting groundwater levels or groundwater quality in the area, which will negatively affect groundwater users who rely on this water source for domestic use and farming.
- It is recommended that all monitoring boreholes be monitored on a quarterly basis.
- Although there are no highly elevated constituents in the groundwater, with the exception of nitrate, it is recommended that the parameters used for analysis in this report is used for monitoring purposes.
- It is recommended that the data is stored in a dedicated database and that quarterly and annual reports are generated for mine management.

7 REFERENCES

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8 APPENDIX A – PHOTOS OF HYDROCENSUS BOREHOLES

HCBH1

HCBH2

HCBH3

HCBH4

HCBH5

HCBH6

HCBH7

HCBH8

HCBH9

HCBH10

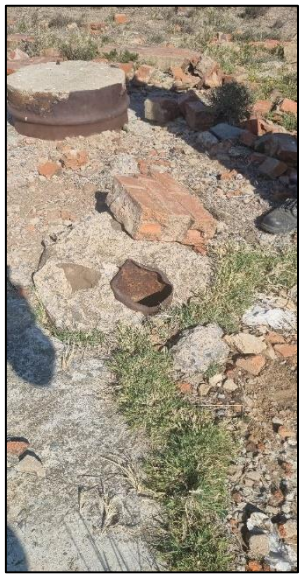

HCBH11


HCBH12


HCBH13


HCBH14


HCBH15


HCBH16


HCBH17


HCBH18


HCBH19


HCBH20

HCBH21

HCBH22

9 APPENDIX B: HYDROCENSUS BOREHOLE WATER QUALITY RESULTS

X-LAB EARTH

TEST REPORT

CLIENT DETAILS		LABORATORY DETAILS	
Contact	Niel Kruger	Laboratory	X-Lab Earth Science
Client	GCS - GROUNDWATER CONSULTING SERVICES (PTY) LTD	Address	2 Samantha Street, Strydompark, Randburg, 2169
Address	63 Wessel Road Rivonia Sandton	Telephone	+27 (0)11 590 3000
Telephone		Laboratory Manager	Mrs Tasneem Tagari
Facsimile		Lab Reference	JBX24-19010
Email	nielk@gcs-sa.biz	Report Number	0000081280
		Date Received	24/05/2024 11:45
Order Number	23-1204	Date Started	27/05/2024 11:28
Samples	8	Date Reported	07/06/2024 12:33
Sample matrix	WATER		

The document is issued in accordance with SANAS's accreditation requirements.
Accredited for compliance with ISO/IEC 17025. SANAS accredited laboratory T0775.

Samples received at ambient temp good condition.
This report cancels and supersedes Report No: 000081177, issued by X-Lab Earth Science on 05/06/2024. The reason for re-issue is they was a transposing error for the sulphate results.

SIGNATORIES

Tasneem Tagari

General Manager/Technical Signatory

X-Lab Earth Science (Pty) Ltd www.xlab.earth LAB-QLT-REP-001

X-LAB EARTH

JBX24-19010

Report number 0000081280
Client reference:
23-1204

TEST REPORT

Parameter	Units	LOR	Sample Number / Sample Name: JBX24-19010.001 HCBH1	JBX24-19010.002 HCBH4	JBX24-19010.003 HCBH12	JBX24-19010.004 HCBH19
Calculation of Anion-Cation Balance						
Anion-Cation Balance	%	-100	0.94	2.32	1.35	1.23
Sum of Anion Milliequivalents	meq/l	-	8.19	7.05	8.20	9.07
Sum of Cation Milliequivalents	meq/l	-	8.35	7.39	8.43	9.30
Alkalinity on waters by titration Method: ME-AN-001						
Total Alkalinity as CaCO3	mg/l	12	290	290	280	330
Bicarbonate Alkalinity as CaCO3	mg/l	12	290	290	280	330
Bicarbonate Alkalinity as HCO3	mg/l	12	354	354	342	403
Bicarbonate as CaCO3	mg/l	12	290	290	280	330
Carbonate Alkalinity as CaCO3	mg/l	12	<12	<12	<12	<12
Carbonate Alkalinity as CO3	mg/l	12	<12	<12	<12	<12
Conductivity on waters Method: ME-AN-007						
Conductivity in mS/m @ 25ºC	mS/m	2	66	55	57	62
Total Dissolved Solids (TDS) in water at 105 deg Method: ME-AN-011						
TDS (0.7µm) @ 105ºC	mg/l	21	460	390	400	440
Total Suspended Solids Method: ME-AN-009						

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X-LAB EARTH

JBX24-19010

Report number 0000081280
Client reference:
23-1204

TEST REPORT

Parameter	Units	LOR	Sample Number / Sample Name: JBX24-19010.001 HCBH1	JBX24-19010.002 HCBH4	JBX24-19010.003 HCBH12	JBX24-19010.004 HCBH19
Total Suspended Solids Method: ME-AN-009 (continued)						
TSS (0.7µm) @ 105ºC	mg/l	21	<21	<21	<21	<21
ICP-OES Metals on waters (Dissolved) Method: ME-AN-027						
Aluminium	mg/l	0.02	<0.02	<0.02	<0.02	<0.02
Antimony	mg/l	0.008	<0.01	<0.01	<0.01	<0.01
Arsenic	mg/l	0.01	0.01	<0.01	<0.01	<0.01
Barium	mg/l	0.002	0.048	0.042	0.053	0.033
Boron	mg/l	0.005	0.063	0.067	0.066	0.086
Cadmium	mg/l	0.001	<0.001	<0.001	<0.001	<0.001
Calcium	mg/l	0.5	67	62	73	78
Chromium	mg/l	0.002	<0.002	<0.002	<0.002	<0.002
Copper	mg/l	0.02	<0.02	<0.02	<0.02	<0.02
Iron	mg/l	0.05	<0.05	<0.05	<0.05	<0.05
Lead	mg/l	0.01	<0.01	<0.01	<0.01	<0.01
Magnesium	mg/l	0.01	28	22	27	24
Manganese	mg/l	0.01	<0.01	<0.01	<0.01	<0.01
Nickel	mg/l	0.005	<0.005	<0.005	<0.005	<0.005
Potassium	mg/l	0.2	4.9	8.0	11	9.5
Selenium	mg/l	0.01	<0.01	<0.01	<0.01	<0.01
Sodium	mg/l	0.5	60	51	53	74
Strontium	mg/l	0.001	0.62	0.53	0.61	0.87
Uranium *	mg/l	0.01	<0.01	<0.01	<0.01	<0.01
Vanadium	mg/l	0.001	<0.001	<0.001	0.005	<0.001

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X-LAB EARTH

JBX24-19010

Report number 0000081280
Client reference:
23-1204

TEST REPORT

Parameter	Units	LOR	Sample Number / Sample Name: JBX24-19010.001 HCBH1	JBX24-19010.002 HCBH4	JBX24-19010.003 HCBH12	JBX24-19010.004 HCBH19
ICP-OES Metals on waters (Dissolved) Method: ME-AN-027 (continued)						
Zinc	mg/l	0.01	<0.01	0.20	<0.01	0.01
Anions on Waters by Ion Chromatography Method: ME-AN-014						
Chloride	mg/l	0.05	31	21	35	33
Fluoride	mg/l	0.05	0.34	0.22	0.23	0.21
Nitrate	mg/l	0.1	48	21	66	45
Nitrite	mg/l	0.5	<0.5	<0.5	<0.5	<0.5
Sulphate	mg/l	0.05	36	16	27	40
pH in water Method: ME-AN-016						
pH in water at 25ºC	-	1	7.9	7.2	8.3	7.5
Dissolved Hg on waters by CVAAS Method: ME-AN-026						
Mercury	µg/l	0.001	<0.001	<0.001	<0.001	<0.001

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X-LAB EARTH

JBX24-19010

Report number 0000081280
Client reference:
23-1204

TEST REPORT

Parameter	Units	LOR	Sample Number Sample Name	JBX24-19010.005 HCBH21	JBX24-19010.006 HC Dam 1	JBX24-19010.007 HC Dam 2	JBX24-19010.008 HC Dam 3
Calculation of Anion-Cation Balance							
Anion-Cation Balance	%	-100		0.86	2.99	4.17	-9.82
Sum of Anion Milliequivalents	meq/l	-		10.8	7.79	1.54	5.47
Sum of Cation Milliequivalents	meq/l	-		10.9	8.28	1.68	4.49
Alkalinity on waters by titration Method: ME-AN-001							
Total Alkalinity as CaCO3	mg/l	12		330	300	60	190
Bicarbonate Alkalinity as CaCO3	mg/l	12		330	300	60	190
Bicarbonate Alkalinity as HCO3	mg/l	12		403	366	73	232
Bicarbonate as CaCO3	mg/l	12		330	300	60	190
Carbonate Alkalinity as CaCO3	mg/l	12		<12	<12	<12	<12
Carbonate Alkalinity as CO3	mg/l	12		<12	<12	<12	<12
Conductivity on waters Method: ME-AN-007							
Conductivity in mS/m @ 25ºC	mS/m	2		66	56	13	44
Total Dissolved Solids (TDS) in water at 105 deg Method: ME-AN-011							
TDS (0.7µm) @ 105ºC	mg/l	21		470	400	95	310
Total Suspended Solids Method: ME-AN-009							

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X-LAB EARTH

JBX24-19010

Report number 0000081280
Client reference:
23-1204

TEST REPORT

Parameter	Units	LOR	Sample Number Sample Name	JBX24-19010.005 HCBH21	JBX24-19010.006 HC Dam 1	JBX24-19010.007 HC Dam 2	JBX24-19010.008 HC Dam 3
Total Suspended Solids Method: ME-AN-009 (continued)							
TSS (0.7µm) @ 105ºC	mg/l	21		<21	304	762	<21
ICP-OES Metals on waters (Dissolved) Method: ME-AN-027							
Aluminium	mg/l	0.02		<0.02	0.12	4.9	<0.02
Antimony	mg/l	0.008		<0.01	<0.01	<0.01	<0.01
Arsenic	mg/l	0.01		<0.01	0.02	<0.01	<0.01
Barium	mg/l	0.002		0.027	0.27	0.12	0.033
Boron	mg/l	0.005		0.14	0.046	0.028	0.034
Cadmium	mg/l	0.001		<0.001	<0.001	<0.001	<0.001
Calcium	mg/l	0.5		100	100	10	28
Chromium	mg/l	0.002		0.005	<0.002	<0.002	<0.002
Copper	mg/l	0.02		0.02	<0.02	<0.02	<0.02
Iron	mg/l	0.05		<0.05	0.37	6.8	0.22
Lead	mg/l	0.01		<0.01	<0.01	<0.01	<0.01
Magnesium	mg/l	0.01		54	22	3.7	11
Manganese	mg/l	0.01		<0.01	0.67	3.7	0.01
Nickel	mg/l	0.005		<0.005	0.014	0.014	<0.005
Potassium	mg/l	0.2		2.7	36	21	13
Selenium	mg/l	0.01		<0.01	<0.01	<0.01	<0.01
Sodium	mg/l	0.5		33	14	1.8	42
Strontium	mg/l	0.001		0.33	0.42	0.056	0.19
Uranium *	mg/l	0.01		<0.01	<0.01	<0.01	<0.01
Vanadium	mg/l	0.001		0.008	<0.001	<0.001	<0.001

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X-LAB EARTH

JBX24-19010

Report number 0000081280
Client reference:
23-1204

TEST REPORT

Parameter	Units	LOR	Sample Number / Sample Name: JBX24-19010.005 HCBH21	JBX24-19010.006 HC Dam 1	JBX24-19010.007 HC Dam 2	JBX24-19010.008 HC Dam 3
ICP-OES Metals on waters (Dissolved) Method: ME-AN-027 (continued)						
Zinc	mg/l	0.01	0.06	<0.01	<0.01	<0.01
Anions on Waters by Ion Chromatography Method: ME-AN-014						
Chloride	mg/l	0.05	51	42	7.1	42
Fluoride	mg/l	0.05	0.10	0.80	0.23	0.39
Nitrate	mg/l	0.1	30	0.1	0.1	0.1
Nitrite	mg/l	0.5	<0.5	<0.5	<0.5	<0.5
Sulphate	mg/l	0.05	108	29	6.9	23
pH in water Method: ME-AN-016						
pH in water at 25ºC	-	1	7.2	7.2	6.7	7.2
Dissolved Hg on waters by CVAAS Method: ME-AN-026						
Mercury	µg/l	0.001	<0.001	<0.001	<0.001	<0.001

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X-LAB EARTH

JBX24-19010

Report number 0000081280
Client reference:
23-1204

METHOD SUMMARY

METHOD	METHOD SUMMARY
ME-AN-007	The conductivity of an aliquot of aqueous sample is measured electrometrically using a standard cell connected to a calibrated meter with automated temperature correction. This method is based on APHA 2510.
ME-AN-016	The pH of an aliquot of aqueous sample is measured electrometrically using an electrode connected to a calibrated meter with automated temperature correction. This method is based on APHA 4500-H B.
ME-AN-011	Total dissolved solids (TDS) is determined gravimetrically on a filtered aliquot of aqueous sample by evaporating the sample to dryness in a pre-weighed container at 105 deg C. The method is based on APHA 2540 C.
ME-AN-009	Total suspended solids (TSS) is determined gravimetrically by filtering an aliquot of well-shaken aqueous sample through a pre-weighed filter which is then dried at 105 deg C. The method is based on APHA 2540 D.
ME-AN-001	An aliquot of aqueous sample is titrated first to pH 8.3 and then to 4.3 using standardised acid. The volumes of acid titrated are used to calculate total alkalinity and/or alkaline species. The method is based on EPA 310.2 and APHA 2320 B.
ME-AN-014	Inorganic anions (Br, Cl, F, NO3, NO2, SO4) are determined on aqueous samples by ion chromatography. The method is based on EPA 300.1 and APHA 4110 B.
ME-AN-027	Dissolved metals are determined on a filtered and acidified (to 1% HNO3) portion of aqueous sample by inductively coupled plasma optical emission spectrometry (ICP-OES). The method is based on EPA 200.7 and APHA 3120.
Calculation of Anion-Cation	Calculation of the cation/anion balance
ME-AN-026	Dissolved Hg on waters by ICP-MS

FOOTNOTES

IS	Insufficient sample for analysis.	-	The sample was not analysed for this analyte
LNR	Sample listed, but not received.	*	Results marked "Not SANAS Accredited" in this report are not included in the SANAS Schedule of Accreditation for this laboratory / certification body / inspection body".
^	Performed by outside laboratory.		
LOR	Limit of Reporting		

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Unless otherwise indicated, samples were received in containers fit for purpose.

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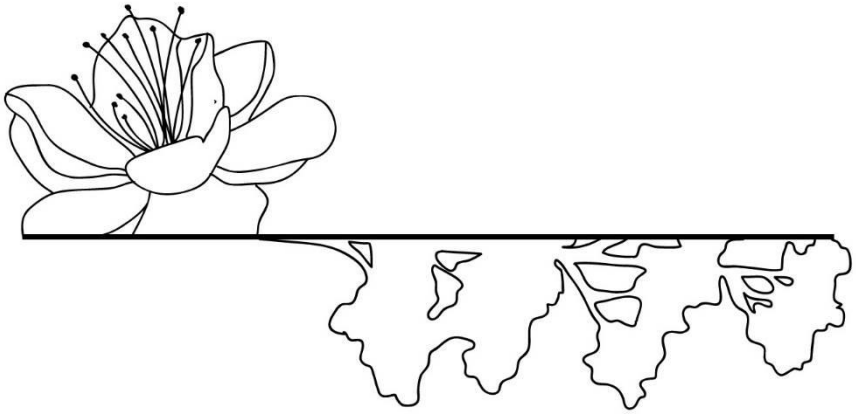
Appendix C-2: Climate Change Impact Assessment Basle Study



Wits Gold - Southern Orange Free State (SOFS) Operations Environmental Authorisation Amendment – CLIMATE CHANGE IMPACT ASSESSMENT BASELINE REPORT

20 JULY 2024

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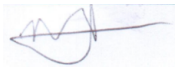
Wits Gold - Southern Orange Free State (SOFS) Operations Environmental Authorisation Amendment – CLIMATE CHANGE IMPACT ASSESSMENT

Project Name:	Wits Gold - The Southern Orange Free State (SOFS) Mining Right Environmental Authorisation Amendment		
Report Version:	Final		
Client:	GCS Environment South Africa		
Client Reference:	23-1204		
DMRE Reference Number:	FS30/5/1/2/2/10005MR		
Document Author:	Marinus du Preez Pr.Sci.Nat (134755)		22 July 2024
Document Reviewer:	Zander Liebenberg Pr.Sci.Nat (117291)		26 July 2024

Declaration of Independence

Details of the Specialists

Company	Cypress and Myrtle (Pty) Ltd
Specialist	Marinus du Preez
Address	Plot 196 Kameeldrift West , 0068
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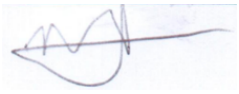
Climate Change Impact Assessment – Baseline Report

I, Marinus du Preez, hereby declare as the author of this of this Report, my independence as a consultant appointed by GCS Environment SA to conduct the Climate Change Impact Assessment for the Southern Orange Free State Mining Right EA Amendment Project. Other than fair remuneration for the work conducted, I have no personal, financial, or any other interests in the project. The information provided in the Report is based on information received from the client and based on the experience and findings of the specialist. The work has been performed in an objective manner, even if the results are not favourable to the applicant.



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Marinus du Preez
Pr.Sc.Nat (134755)

EXECUTIVE SUMMARY

The Southern Orange Free State (SOFS) Mining Right (FS30/5/1/2/2/10005MR) was issued in terms of the Mineral and Petroleum Resources Development Act, 2002 (No. 28 of 2002), as amended to Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (owned subsidiary of Sibanye-Stillwater) in the Virginia area in the Free State Province. Certain properties were omitted from the Mining Right which is required to extend the Life of Mine (LOM) for the operations, which the Licensee now intends to include through an amendment process. To be able to amend the Mining Right and amendment to the existing Environmental Authorisation is also required. This Climate Change Impact Assessment (CCIA) is in support of the new proposed area to be investigated and included in the Mining Right and Environmental Authorisation.

The scope of work for the Project is to provide a Baseline Climate Change Impact Assessment Report that includes the following aspects:

- Describe the existing biophysical environment in terms of climate;
- Describe the applicable policies, papers, acts, guidelines and standards that regulated climate change aspects for the project;
- Potential impacts of the Project on Climate Change;
- Potential impacts of Climate Change on the Project;
- Possible GHGs that the mining project could emit;
- The resilience of the Project to Climate Change factors;

As the current plan for the project excludes any infrastructure, or surface disturbances, and the mining would take place more than 1km below the surface, this report is only a Baseline Report. Should there be a change in the surface infrastructure plan and the mine plan with associated infrastructure is finalised, a detailed Climate Impact Assessment should be done to calculate the emissions based on the proposed activities.

As the current plan for the site doesn't include any infrastructure, facilities, or amenities, possible direct and indirect GHG emissions are based on possible additional activities that might be required to mine underground in the area. Possible activities for the Mining Project that would emit GHGs

- Construction of ventilation shafts.
- Power generation that is required for ventilation shafts.
- Construction of powerlines.
- Construction of access roads to ventilation shafts.
- Travelling for inspections and maintenance of ventilation shafts.
- Additional power could be required for ventilation and machinery. This includes amongst others pumps for water abstraction for the safety of the workers and drilling equipment.

These are anticipated activities that could contribute to GHG emissions and will be discussed in more detail. A detailed emissions calculation and study would be required once the activities, infrastructure, and mine plan have been finalised.

Other indirect GHG emissions that could be a result of the project are transportation of additional employees, transport of the materials removed as well as goods and services provided. These cannot be monitored or controlled by the mine.

In terms of the possible impacts the operations will have on climate change, the fact that there is currently no infrastructure, surface disturbances, or activities planned, the Project would have very low impacts on climate change.

It is recommended that a detailed emissions study and calculations study be done once the start of the project SOFS Project has commenced and data becomes available, as well as when a detailed mine layout plan and infrastructure plan have been developed for the project site.

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Abbreviations

AEL	Atmospheric Emission Licence
CCIA	Climate Change Impact Assessment
CH_4	Methane
CO_2	Carbon dioxide
DEA	Department of Environmental Affairs (now the DFFE)
DFFE	Department of Forestry, Fisheries and the Environment
DMRE	Department of Mineral Resources and Energy
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
GHG	Greenhouse Gas
INDC	Intended Nationally Determined Contribution
LoM	Life of Mine
MPRDA	Mineral Petroleum Resources Development Act
MR	Mining Right
MW	Megawatt
NAEIS	National Atmospheric Emissions Inventory System
NCCAS	National Climate Change Adaptation Strategy
NDC	Nationally Determined Contribution
NEMA	National Environmental Management Act
NEMAQA	National Environmental Management: Air Quality Act
NEMWA	National Environmental Management: Waste Act
N_2O	Nitrous Oxide
SOFS	Southern Orange Free State
UNFCCC	United Nations Framework Convention on Climate Change

Structure of this Report

NEMA Regulations (2014) (as amended) – Appendix 6	Relevant Section in this Report
Details of the specialist who prepared the report.	Page ii of this Report
The expertise of that specialist to compile a specialist report including a curriculum vitae.	Page ii of this Report Appendix A for CV
A declaration that the specialist is independent in a form as may be specified by the competent authority.	Page ii of this Report
An indication of the scope of, and the purpose for which, the report was prepared.	Section 2.1 Scope of the Climate Change Impact Assessment, page 4
An indication of the quality and age of base data used for the specialist report.	No quantitative data available. Data uses is indicated in Chapter 5: Current Environment State for the Proposed Study Area
A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change.	Chapter 4: Climate Change Context
The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment.	Not applicable to Climate Change Impact Assessments
A description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used.	Chapter 4: Climate Change Context
Details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives.	Not applicable to Climate Change Impact Assessments
An identification of any areas to be avoided, including buffers.	Not applicable to Climate Change Impact Assessments
A map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers.	Not applicable to Climate Change Impact Assessments
A description of any assumptions made and any uncertainties or gaps in knowledge.	Section 1.2: Assumptions and Limitations on page 3
A description of the findings and potential implications of such findings on the impact of the proposed activity or activities.	Chapter 9: Conclusion and Recommendations
Any mitigation measures for inclusion in the EMPr.	Chanter 8: Mitigation Measures and Adaptation Measure
Any conditions for inclusion in the environmental authorisation.	Chapter 9: Conclusion and Recommendations
Any monitoring requirements for inclusion in the EMPr or environmental authorisation.	Chanter 8: Mitigation Measures and Adaptation Measure
A reasoned opinion whether the proposed activity, activities or portions thereof should be	Chapter 9: Conclusion and Recommendations

NEMA Regulations (2014) (as amended) – Appendix 6	Relevant Section in this Report
Authorised and regarding the acceptability of the proposed activity or activities.	
If the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan.	Chapter 9: Conclusion and Recommendations
A description of any consultation process that was undertaken during the course of preparing the specialist report.	Not applicable to Climate Change Impact Assessments
A summary and copies of any comments received during any consultation process and where applicable all responses thereto.	Not applicable to Climate Change Impact Assessments

1 Introduction

The Southern Orange Free State (SOFS) Mining Right (FS30/5/1/2/2/10005MR) was issued in terms of the Mineral and Petroleum Resources Development Act, 2002 (No. 28 of 2002), as amended to Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (owned subsidiary of Sibanye-Stillwater) in the Virginia area in the Free State Province. Certain properties were omitted from the Mining Right which is required to extend the Life of Mine (LOM) for the operations, which the Licensee now intends to include through an amendment process. To be able to amend the Mining Right and amendment to the existing Environmental Authorisation is also required. This Climate Change Impact Assessment (CCIA) is in support of the new proposed area to be investigated and included in the Mining Right and Environmental Authorisation.

The SOFS Project is located in Matjhabeng Local Municipality, within the Lejweleputswa District near Meloding and Virginia in the Free State. (Figure 1) The following properties will be included in the amendment Project.

- Remainder of Portion 1, 8, 9, 10, 14, 15, 18, 19, 22, 25, 28 and 29 of the Farm Stilte No. 138
- Remainder of the Farm Dora No. 287
- Portion of Remainder, Portion 1 of the Farm Mooiuitzig No. 352
- Portion of Remainder of the Farm No. Schoonheid No. 540
- Portion of Remainder of the Farm Kaallaagte No. 562

The DMRE has requested that a Climate Impact Assessment be included in the investigations for the Impact Assessment Report. This baseline Climate Change Impact Assessment Report has been compiled as part of the impact assessment phase of the Project.

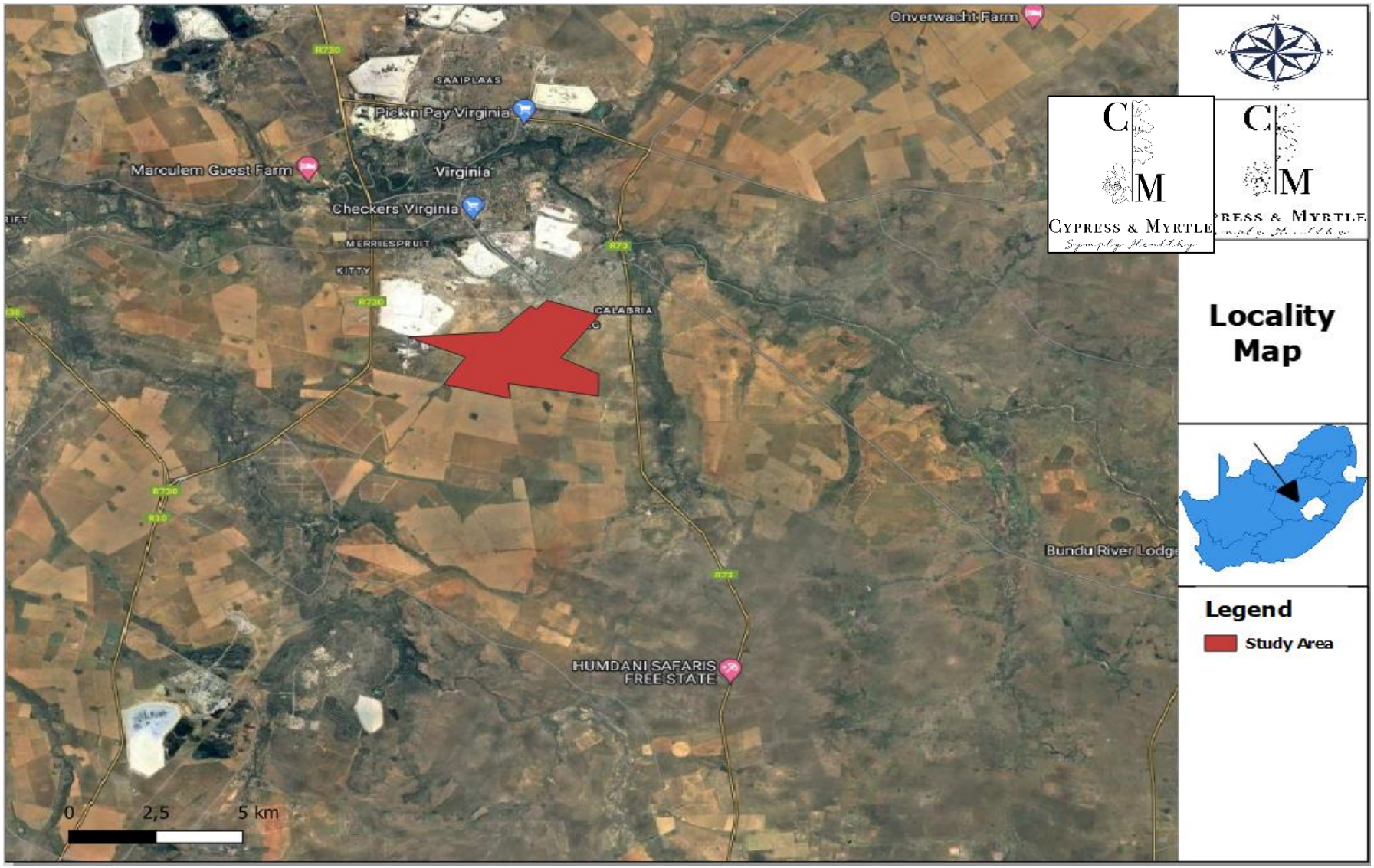

Figure 1: Location of the proposed project. Study Area.

1.1 Objectives of the Climate Change Impact Assessment

The main objective of this CCIA Baseline Report is to provide the current conditions at the location before the proposed extended underground mining activity commenced and to form part of the Impact Assessment phase of the project development. The plan is to provide an understanding of the potential contribution of the SOFS Project towards climate change, through the emission of greenhouse gases (GHGs) and to provide possible mitigation measures for the project to manage possible climate change impacts. The possible GHGs that could be emitted by the proposed underground mining project include carbon dioxide (CO_2), methane (CH_4), and nitrous Oxide (N_2O). Additionally, the effects that climate change could have on the project will also be assessed.

1.2 Assumptions and Limitations

This Climate Change Impact Assessment Baseline Report has been compiled using the information provided by the client, research, available information, and the experience and knowledge of the specialist team. There are some limitations to the extent of the study, as well as some assumptions that were made from previous experiences and similar projects, and some predictions that are included in the Report.

- The infrastructure plan has not been developed. No infrastructure is planned at this stage therefore no calculations can be made for infrastructure or facility emissions and impacts.
- No infrastructure and facilities have been developed to date on the existing Mining Rights, therefor there is no existing data to use as a baseline for the project.

2 Background

Wits Gold is currently in possession of the Mining Right and Environmental Authorisation to mine gold and other minerals in the Virginia Area of the Free State Province. Since the issuing of the Mining Right, the company has noticed that certain properties were omitted from the MR which is part of the Mine Plan for the operations and the mineral resource. Subsequently, the Mine applied for an amendment to include the properties. As part of the amendment process the EA and EMPr must also be amended. In accordance with the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and the National Environmental Management Act, 1998 (Act 107 of 1998) indicate that any areas to be included in the amendment that have not been assessed must be assessed through an independent environmental impact assessment process.

This CCIA Baseline Report is part of the impact assessment phase which will be included into the application for EA Amendment.

The entire SOFS project is planned as addition of properties into the mining right development to increase the LoM for the initial project. This project is an extension of the existing Southern Orange Free State Mining Right Area. The Environmental Authorisation and Mining Right that have been approved and issued includes the development of the mining shafts, offices, and all other infrastructure (This is already authorised and excluded from this study).

This project only entails the extension of underground operations to increase the LoM and prevent sterilisation of the minerals. The current application is made to include the additional properties into the Mining Right and amend the Environmental Authorisation and Environmental Management Programme (EMPr).

This project therefore only includes the addition of properties to the existing mining right. The mining on these properties will take place over 1km underground and there is no planned infrastructure or surface disturbances planned and anticipated at this stage.

2.1 Scope of the Climate Change Impact Assessment

The scope of work for the Project is to provide a Baseline Climate Change Impact Assessment Report that includes the following aspects:

- Describe the existing biophysical environment in terms of climate;
- Describe the applicable policies, papers, acts, guidelines and standards that regulated climate change aspects for the project;
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As the current plan for the project excludes any infrastructure, or surface disturbances, and the mining would take place more than 1km below the surface, this report is only a Baseline Report. Should there be a change in the surface infrastructure plan and the mine plan with associated infrastructure is finalised, a detailed Climate Impact Assessment should be done to calculate the emissions based on the proposed activities.

2.2 GHG Sources for the Project

As the current plan for the site doesn't include any infrastructure, facilities, or amenities, possible direct and indirect GHG emissions are based on possible additional activities that might be required to mine underground in the area. Possible activities for the Mining Project that would emit GHGs

- Construction of ventilation shafts.
- Power generation that is required for ventilation shafts.
- Construction of powerlines.
- Construction of access roads to ventilation shafts.
- Travelling for inspections and maintenance of ventilation shafts.
- Additional power could be required for ventilation and machinery. This includes amongst others pumps for water abstraction for the safety of the workers and drilling equipment.

These are anticipated activities that could contribute to GHG emissions and will discussed in more detail. As the current plan does not include any of these mentioned activities or any infrastructure, the emissions cannot be determined. A detailed emissions calculation and study would be required once the activities, infrastructure, and mine plan have been finalised.

Other indirect GHG emissions that could be a result of the project are transportation of additional employees, transport of the materials removed as well as goods and services provided. These cannot be monitored or controlled by the mine.

3 Relevant Laws and Policies

3.1 National Environmental Management Act, 1998 (Act 107 of 1998) NEMA

The NEMA sets out an environmental governance framework, which seeks to promote certain common environmental management principles and procedures which apply throughout South Africa. These principles must be used by all when making decisions on matters which may affect the environment. It also provides with respect to the implementation of international agreements and compliance and enforcement in general.

The two principles set out in Chapter 1 of NEMA are that: a) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably; and b) Development must be socially, environmentally and economically sustainable.

NEMA is the overarching Act for Specific Environmental Management Acts (SEMAs) such as the National Environmental Management: Air Quality Act (39 of 2004) (NEMAQA) and National Environmental Management: Waste Act (59 of 2008) (NEMWA) which in turn provide reporting and licencing requirements which feeds into climate change management and reporting.

3.2 National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2008) (NEMAQA)

This act regulates air quality and provides measures for the prevention of pollution and ecological degradation. It further aims to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and related matters.

As part of the regulating of the act it sets out the activities which will require an Atmospheric Emission Licence (AEL) for their operations. The AEL provides a tool for regulating emitters to reduce their emissions and also to obtain information on the current emissions to quantity the National emissions and work towards the committed emissions to combat International Climate Change. On 14 March 2014, the following six greenhouse gases were declared as priority air pollutants in South Africa:

i. Carbon dioxide (CO_2)
ii. Methane (CH_4)
iii. Nitrous Oxide (N_2O)
iv. Hydrofluorocarbons (HFCs)
v. Perfluorocarbons (PFCs)
vi. Sulphur hexafluoride (SF_6)

National GHG Emission Reporting Regulations (Government Gazette No. 40762 of 3 April 2017), were published by the DFFE (then DEA). A person identified as a Category A data provider in terms Annexure 1 of these regulations, must register their facilities on the South African Greenhouse Gas Reporting System (SAGERS) and must submit a GHG emissions inventory and activity data in the required format given under Annexure 3 on an annual basis. A summary of GHG emitting activities required to report is given under section 4. The NEM:AQA and the National GHG Emission Reporting Regulations, establish the legislative framework for the national GHG reporting system in South Africa.

Mining and Quarrying falls under category 1A2i in terms of Annexure 1 of the National GHG emission reporting regulations (Government Gazette No. 40762 of 3 April 2017). All facilities conducting these

activities are required to register and report on their GHG emissions by the 31 March of every year to the Municipalities and well as national regulators if they trigger the required reporting thresholds (if they have stationary fuel combustion installations with a combined net heat input greater than 10MW).

Controlled emitters (under which the mine will fall) have to report on the National Atmospheric Emissions Inventory System (NAEIS) by 31 March every year. The NAEIS system has gone offline and from 2024 onwards needs to be submitted manually until a new system has been put in place. Mines or activities are required to report as per the local municipality bylaws. Should the proposed underground mining operations go ahead, it is required by law to complete and submit annual reports on the system.

3.3 National Environmental Management: Waste Act, 2008 (Act 59 of 2008 (NEMWA)

An Act to reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for the licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.

This Act makes provision for measures to improve waste management practices, including

a) minimizing the consumption of natural resources;
b) prevention and minimizing the generation of waste;
c) reducing, re-using, recycling and recovering waste;
d) treating and safely disposing of waste as a last resort;
e) preventing pollution and ecological degradation;
f) promoting and ensuring the effective delivery of waste services;
g) rehabilitating land where contamination presents, or may present, a significant risk of harm to health or the environment; and
h) achieving integrated waste management reporting and planning.

The management of waste plays a large role in climate change mitigations and actions as responsible waste management can reduce a development impact, footprint, carbon emissions, and activity remnants.

3.4 National Climate Change Response White Paper, 2011

The National Climate Change Response Policy is a comprehensive plan to address both mitigation and adaptation in the short, medium, and long term (up to 2050). GHG emissions are set to stop increasing at the latest by 2020-2025, to stabilise for up to 10 years and then to decline in absolute terms.

3.5 Constitution of the Republic of South Africa, 1996

The Constitution is the National law governing all other legislation. Other such as environmental, social and guideline legislation is shaped by the Bill of Rights set out in the Constitution. It sets out the rights of every citizen of South Africa and aims to address past and present social injustices. Section 24 of the Constitution gives everyone the right:

- To an environment that is not harmful to either their health or wellbeing; and
- To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –
    - Prevent pollution and ecological degradation,
    - Promote conservation; and
    - Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

3.6 Carbon Tax Act, Act No. 15 of 2019

The Carbon Tax Act, enacted in June 2019, gives effect to the polluter-pays-principle for large emitters and helps to ensure that firms and consumers take the negative adverse costs (externalities) into account in their future production, consumption and investment decisions.

The Carbon Tax Act No. 15 of 2019 specifies that the initial rate of carbon tax of R120 per tonne will be increased by consumer price inflation (CPI) +2% per year until 31 December 2022, and thereafter the carbon tax rate will be increased only by CPI.

This would be applicable to the mining operation as a whole not to this project as a standalone assessment.

3.7 United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992 with the ultimate aim of preventing dangerous human interference with the climate system. The ultimate objective of Bali Action Plan (2007), the Copenhagen Accord (2009), the Cancún agreements (2010), and the Durban Platform for Enhanced Action (2012) agreements under the UNFCCC is to stabilise greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enables sustainable development.

South Africa is a party to both the UNFCCC and its Kyoto Protocol, having acceded to the Convention in 1997 and ratified the Kyoto Protocol in 2002.

3.8 The National Climate Change Bill [B9-2022]

The National Climate Change Bill was passed the bill on the 25th of April 2024 by the Parliament of the Republic of South Africa. The Climate Change Bill recognises that South Africa has a vital role to play in the global effort to reduce greenhouse gas emissions and that Southern Africa is especially vulnerable to the impacts of climate change which require urgent and appropriate adaptation responses. Further, it recognises that South Africa has made international commitments and obligations to communicate and implement effective nationally determined climate change response, mitigation, and adaptation strategies, that represent the Republic's fair contribution to the global climate change response.

On mitigation, the Bill provides for a just transition away from our current carbon-intensive energy system and towards a decarbonized economy and society, while meeting our critical development challenges. To achieve this, the Bill formalises our Greenhouse Gas Inventory, to strengthen the evidence base for further climate action, and our current reporting processes. The Bill also provides for the development of a long-term national greenhouse gas emissions trajectory and its review from time to time, and establishes a clear legal basis for allocating sectoral emissions targets to relevant sectors, and carbon budgets to large emitters.

3.9 Paris Agreement

The Paris Agreement is an international treaty on climate change that was adopted in 2015. The treaty covers climate change mitigation, adaptation, and finance. The Agreement includes commitments from all countries to reduce their emissions and work together to adapt to the impacts of climate change and calls on countries to strengthen their commitments over time. The Paris Agreement was negotiated by 195 parties at the 2015 United Nations Climate Change Conference near Paris, France.

South Africa signed the Agreement and as part of the commitment to the agreement has published certain documents on how the country aims to honour the Agreement. South Africa's updated mitigation targets represent a significant progression from the first NDC: the country commits to a fixed target for greenhouse gas emissions levels of 398-510 MtCO2e by 2025, and 350-420 MtCO2e by 2030, compared to 398 and 614 Mt CO2e between 2025 and 2030 as communicated in the first NDC.

3.9.1 South Africa's Intended Nationally Determined Contribution (INDC)

This INDC has been developed on the understanding that the Paris Agreement will be binding, fair, effective and incorporate a "no-backsliding" and a "progressive" approach to enhance climate change mitigation and adaptation implementation and ambition. It is a nationwide sectoral document aiming at:

(i) ensuring temperature increases are kept below 2°C; and
(ii) (ii) reducing emissions of CO2 and other long-lived GHGs.

South Africa is facing challenges such as eliminating poverty and eradicating inequality requires addressing major challenges in creating decent employment, which in turn requires sustainable economic development, improving basic education, health and social welfare and many other basic needs such as access to food, shelter and modern energy services. In addition, South Africa is presently facing acute energy challenges that hamper economic development. South Africa therefore places emphasis on addressing poverty and inequality which overrides emissions reduction financial commitments. Policies and plans will be put in place to curve the country's GHG emissions towards a peak, plateau and decline trajectory range.

3.10 National Climate Change Adaptation Strategy (NCCAS)

In 2020, the National Climate Change Adaptation Strategy (NCCAS) was approved by Cabinet setting out the national priorities for building climate resilience. This is a tool for South Africa to honour international climate obligations under the UNFCCC, the strategy provides overarching guidance to all sectors of the economy.

The Strategy aim to create Climate Change Sector Plans to include climate change adaption for different sectors for climate change adaptation interventions. These industries include water, agriculture, forestry, fisheries, health, biodiversity and ecosystems, human settlements, disaster risk reduction and management sectors, energy, mining, coast, transportation and infrastructure. These plans will be reviewed and updated every 5 years and will promote the integration of climate change adaptation responses into development objectives, policy, planning and implementation and improve our understanding of climate change impacts and capacity to respond to these impacts. The strategy also ensures that resources and systems are in place to enable the implementation of climate change responses. No sector plan for mining has been adapted at this stage.

3.11 Integrated Development Plan (IDP) Final Review 2024/2025

The IDP for the Matjhabeng Local Municipality is a strategic planning document to ensure coordination and integration between projects, programmes, and strategies, both internally between directorates and externally with other spheres of government on district, provincial, and national level.

The priorities identified in the IDP, as the key strategic plan of the Municipality, inform all financial planning and budgeting undertaken by the institution. Achieving IDP and budget targets and deliverables are monitored and evaluated on an ongoing basis through service delivery budget implementation plans (SDBIP). However, this requires that targets and deliverables be credible and realistic. Communities cannot be developed in a fragmented manner as was the norm before 1994. The primary objective of the IDP is therefore to also serve as a tool of democracy to enhance integrated service delivery and development and to promote sustainable, integrated communities.

4 Climate Change Context

4.1 Climate Change Effects in South Africa

South Africa is part of the global effort to address climate change impacts and mitigate and manage the effects of climate change, introduced within the UNFCCC, and associated international mechanisms (Department of Environmental Affairs (DEA, 2018). On the global stage, it is in the best interest of developing nations to uphold the principles of the Paris Agreement, as its effectiveness depends on the provisions outlined in article 2 of the Agreement. This reflects the increased joint efforts to limit the rise in global average temperature to well below 2°C compared to pre-industrial levels and limit the temperature increase to 1.5 °C above pre-industrial levels (DEA, 2018).

South Africa is in the advanced stages of formulating its national policy to mitigate the effects of climate change. The National Climate Change Bill is expected to be passed in the near future and is currently in its Draft phase.

According to South Africa's 3rd Climate Change Report (DEA, 2018), South Africa's average temperatures have increased considerably over the last 80 years. According to the Department of Environmental Affairs, "Some parts of South Africa have experienced warming at twice the global rate". South Africa is expected to endure extreme warming of between 4-6°C over the next six decades.

According to (United States Environmental Protection Agency, 2022) the following effects can be expected; changes in rainfall intensity, magnitude, and seasonality, as well as extreme weather events and sea level rises are expected (NOAA, 2022).

The effects of climate change on aquatic resources will be particularly difficult. "Different human settlement types and locations have varying vulnerabilities and capacities and will experience the hazards associated with the present and future climate changes to an unequal extent, with informal settlements and their populations being the most exposed" (DEA, 2018). South Africa is expected to experience climate change impacts largely affecting its aquatic resources (Faulds, Taylor, & Wray, 2022). South Africa is classified as a semi-arid country, with extremely high evaporation rates causing less than 9% of annual rainfall ending up in rivers, and only 5% replenishing groundwater aquifers (CER, 2023). Expected Impacts on aquatic systems are due to changes in rainfall and evaporation rates, which are influenced by wind speed and air temperatures. With the drier expected temperature, it is anticipated that there will be a reduction in available surface water (CER, 2023).

4.2 Greenhouse Gasses (GHG)

Greenhouse gases (GHGs) and aerosols have a significant impact on the climate by affecting the Earth's radiative balance. Aerosol particles directly influence the climate by scattering and absorbing solar radiation, and indirectly by acting as a cloud-reduction agent (National grid, 2024). These particles can consist of a wide range of substances. GHGs absorb and discharge infrared radiation, leading to an increase in the Earth's surface temperature, known as the greenhouse effect (Faulds, Taylor, & Wray, 2022). Typical greenhouse gases in South Africa include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride. Carbon dioxide and methane are the primary contributors to climate change.

4.2.1 Burning of fossil fuels for energy

South Africa is economically dependent on a high energy consumptive industry such as mining agriculture and industrial sectors (Faulds, Taylor, & Wray, 2022). The economy is reliant on large-scale consumption of fossil fuels to generate electricity, and transport goods and industrial processes. GHGs produced by burning fossil fuels include carbon dioxide, nitrous oxide, methane and water (CER, 2023). The industrial and mining sector in South Africa consumes an estimated 65% of the electricity (Faulds, Taylor, & Wray, 2022).

In 2020, 87% of all electricity generated in South Africa, was generated through the burning of coal (Climate Transparency, 2024).

4.2.2 Burning of Fossil Fuels for Transport

In terms of the National Greenhouse Gas Emission Reporting Regulations (NGERs), road transportation is excluded from reporting. This implies that companies are not required to report the GHGs discharges associated with vehicle use and on-site mobile machinery (DFFE, 2020). The calculation of GHGs emitted for the use of transport is still a useful tool to understand the contribution of the burning of fossil fuels for transport contribution towards climate change. The road transport sector is the largest consumer of energy within the transportation industry (Martínez, Ebenhack, & Wagner, 2019).

4.2.3 Waste Sources and Management

One of the contributing sectors to GHGs is the waste sector (Ministry of the Environment, 2024). The disposal of waste usually consists of one of three processes: Solid waste disposal, incineration of waste, and wastewater treatment. South Africa's waste sector produces mostly methane with smaller quantities of carbon dioxide and nitrous oxide. The largest contribution of GHGs in the waste sector is solid waste disposal (Faulds, Taylor, & Wray, 2022).

It is estimated an increase of more than 5% in GHGs emissions will occur annually in South Africa with the expansion of the waste service sector especially with the expected expansion to solid waste streams in managed landfills (Abubakar, et al., 2022).

Wastewater treatment contributes to anthropogenic emissions, mainly in the form of methane and nitrous dioxide (Faulds, Taylor, & Wray, 2022). Methane is produced in the anaerobic decomposition of organic matter from most waste streams (Faulds, Taylor, & Wray, 2022).

4.3 Free State Context

Currently, the Matjhabeng Municipality does not have a Climate Change Adaptation Plan in place. Their IDP has identified Climate Change effects such as storms, floods, and droughts as developmental challenges for the Municipality.

5 Current Environment State for the Proposed Study Area

5.1 Free State Climate Conditions

The Free State's climate is characterized by warm-to-hot summers and cool-to-cold winters. This semi-desert area also brings fluctuations of temperature from day to night. Areas in the east experience frequent snowfalls, and some of high precipitation, whilst the west can be extremely hot in summer. Almost all precipitation falls during the summer as brief afternoon thunderstorms, with aridity increasing towards the west. Frost occurs throughout the region usually from May to early September in the west and up to early October in the east (AgMIP, 2024).

5.2 Virginia Free State Climate Summary

Virginia is situated at an elevation of 1319.27 meters above sea level and has a Mid-latitude steppe climate (Classification: BSk). The average yearly temperature in the district is 21.37ºC, which is 0.15% higher than South Africa's averages. Virginia typically receives about 33.88 millimetres of rain and has 59.64 rainy days annually, which is equivalent to 16.34% of the time (Weather and Climate, 2024).

5.2.1 Rainfall

Rainfall patterns will be impacted by climate change. Therefore, it is crucial to comprehend the seasonal rainfall trends to anticipate their future impact based on climate change predictions (Burmeister, Maritz, & Govender, 2021).

Total monthly rainfall is presented in Table 1Table 1: Monthly rainfall for Virginia, Free State for 2021-2023. The observed trend is that during summer, the study area receives the majority of its rainfall. The monthly average rainfall is presented graphically in Figure 2.

Table 1: Monthly rainfall for Virginia, Free State

Month	2021	2022	2023
Unit	mm	mm	mm
January	269.17	159.3	13.6
February	178.76	44.4	45.3
March	45.2	76.16	7.93
April	24.2	128.52	45.65
May	3.6	47.0	65.9
June	12.3	5.1	4.64
July	0	2.9	6.6
August	38.18	7.2	0
September	19.4	2.9	5.19
October	85.6	55.6	43.84
November	59.63	220.02	41.52
December	204.6	119.79	131.83
Total	**940,64**	**868,89**	**412,00**

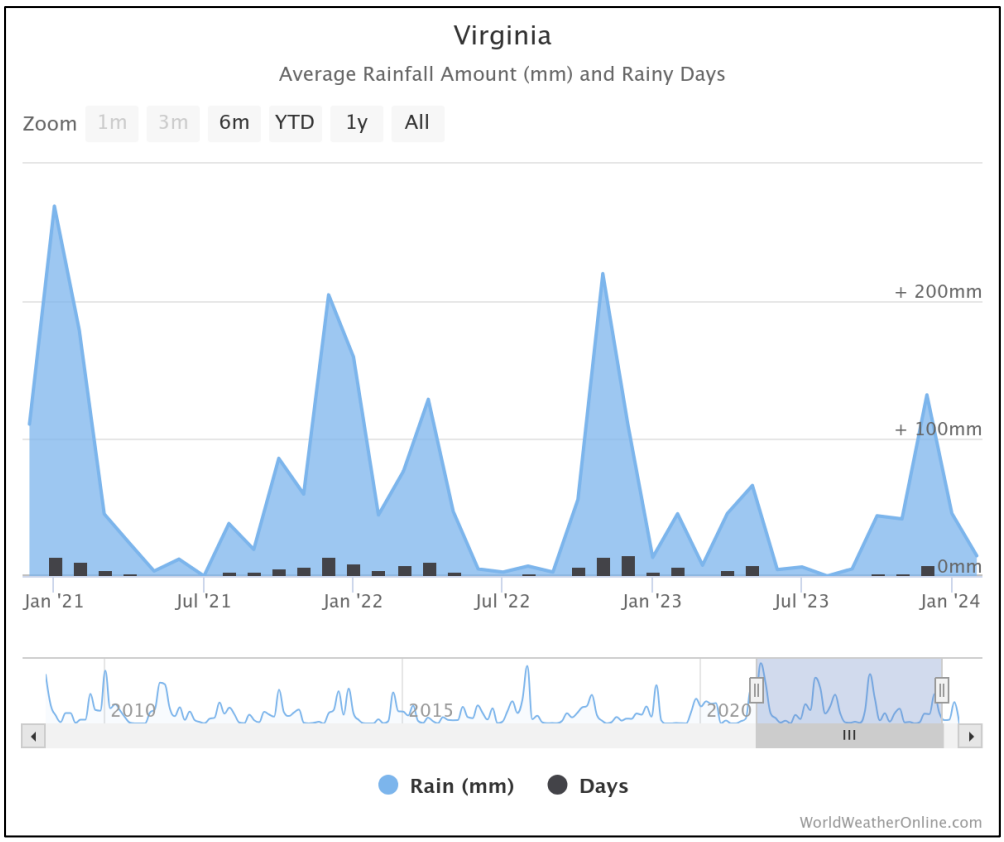

Figure 2: Average monthly rainfall for Virginia, Free State for the period January 2021 to January 2024

5.2.2 Temperature

Climate change is expected to lead to higher average annual temperatures. Additionally, the frequency of heatwaves and extreme weather is also anticipated to increase (Burmeister, Maritz, & Govender, 2021). Seasonal temperature trends are essential to understand the associated risks and when they might occur. Seasonal variations are apparent in the temperature dataset, with higher average temperatures recorded during the summer. (September to March) and lower average temperatures are recorded during winter (April to August). The monthly average, maximum and minimum temperatures for the period January 2021 and December 2023 are presented in Table 2 and Figure 3 below. Average monthly temperatures range from 1°C to 25°C in 2023, with the maximum temperature measured at 32°C (January, March, and November) and the minimum monthly temperature measured at 5°C (Jun and July).

Table 2: Average monthly temperature for Virginia, Free State (January 2021 to December 2023)

Month	2021			2022			2023		
	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max
Unit	°C	°C	°C	°C	°C	°C	°C	°C	°C
Jan	18	22	27	17	23	29	18	24	32
Feb	17	22	27	17	24	30	17	22	28
Mar	16	21	27	15	20	26	17	23	32
Apr	14	20	26	11	16	22	12	19	27
May	9	14	21	9	14	21	10	15	22

Month	2021			2022			2023		
Jun	7	12	18	5	11	18	5	11	19
Jul	4	9	16	6	12	20	5	11	19
Aug	8	14	21	7	14	22	7	14	23
Sep	12	20	28	12	20	28	11	18	27
Oct	13	20	27	17	24	31	15	22	29
Nov	15	22	30	15	21	27	18	25	32
Dec	16	21	27	17	23	29	18	24	31
Average	12	18	24	12	18	25	12	19	26

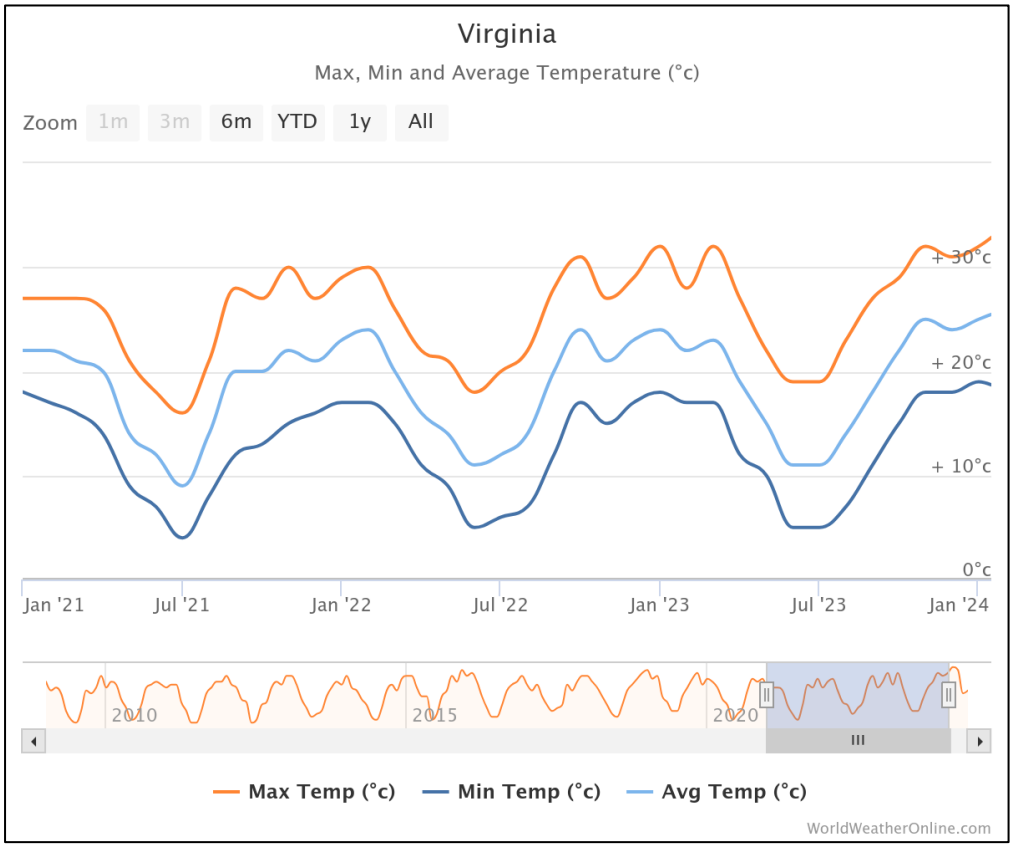

Figure 3: Average ambient temperatures for Virginia, Free State for the period January 2021 to January 2024

6 Project Impact on Climate Change

The current project plan does not include any infrastructure or surface disturbances and only consist of the addition of the properties to conduct underground mining operations over 1km below the surface.

Based on previous experience, similar projects, and common practices, some activities have been identified that might form part of the project in the future so these activities are discussed to assist with future planning for the project and could provide inputs into future climate change assessments for the site. The proposed expansions of the mining operations could result in the following activities to be undertaken at the site. The following activities are possible key sources of GHG emissions should there in future be ventilation shafts required for this underground area:

- Construction of ventilation shafts
- Power generation as required for the ventilation shafts
- Maintenance of ventilation shafts

Other possible indirect GHG emission sources, include, but are not limited to:

- Transportation of additional employees
- Transportation of materials removed
- Transportation of goods and services provided

At this stage, greenhouse gas (GHG) calculations cannot be undertaken because the current plan does not include any activities with emissions that can be determined. Currently, for this proposed project, there are no specified activities or a detailed plan and layout. It is recommended that GHG calculations to estimate the proposed carbon footprint of the mine be undertaken once the layout and mine plan are determined.

6.1 Construction of ventilation shafts

It is possible that the proposed study area will require ventilation shafts. However, the precise number of ventilation shafts needed is currently uncertain, and a detailed mine plan is necessary. The construction of ventilation shafts will involve large-scale drilling, which consumes fossil fuels. Additionally, it will involve building roads to access the ventilation shaft locations and providing an electrical source and transportation method to power the extractor fans.

With the current proposed project, the extent of the planned activity is uncertain and therefore no comprehensive calculations can be formulated.

6.2 Power generation as required for the ventilation shafts

The ventilation shafts required extraction fans to cause air movement within the ventilation shaft. The fans require energy usually in the form of electricity to operate. Additionally, backup generators are expected to be used as a backup power source. The energy consumed by the extractor fans and the quantity of diesels expected to be used by the backup generators are currently uncertain and cannot be calculated.

6.3 Maintenance and Inspections of ventilation shafts

To maintain ventilation shafts transportation of maintenance crew is required, access roads that generate dust and use fossil fuels for transportation. The extent and amount of ventilation shafts required is uncertain and the exact calculation to maintain the ventilation shafts cannot be calculated at this stage.

6.4 Other indirect GHG emissions

The impact of other indirect GHG emissions cannot be assessed at this stage, however, will have an impact.

The movement of material underground within the extent of the study area is uncertain. The amount of waste generated by the mining practices is uncertain. Energy is consumed with the mining process and the transportation of goods within the study area. The extent is currently uncertain and an in-depth GHGs emissions calculation is required once a mine plan is brought forth.

6.5 Other impacts on climate change

During the construction and operational phases, it is expected that some clearing of land may be required in terms of removing vegetation. This will result in the loss of carbon sink capacity due to vegetation not being available to convert the CO_2 emitted to oxygen for roads and infrastructure.

7 Anticipated Impacts of Climate Change on the Project and Project Vulnerability to Climate Change

The impacts of climate change are already evident in South Africa and are expected to worsen in the coming decades. These impacts may vary across the country but are projected to involve alterations in long-term temperature and rainfall patterns. Additionally, there is an expected increase in extreme weather events such as floods and droughts. It's important to note that climate change is not solely about global temperature rise; it also includes changes in regional climate characteristics, encompassing temperature, humidity, rainfall, wind, and severe weather events, all of which have economic and social implications (Climate Transparency, 2024). Climate change poses significant threats to the basic provisions of life including water, the environment, health, and food production (Faulds, Taylor, & Wray, 2022).

Continuing with moderate to high increases in greenhouse gas concentrations such as methane, carbon dioxide, and nitrous oxide, expected scenarios indicate there have already been notable shifts in climate with significant increases in average temperatures. This includes more frequent heatwaves, and fewer cooler days and nights (Climate Transparency, 2024).

Due to the depth of the underground operations, changes in temperature and other external climate factors would not likely affect the underground operations.

Climate impacts that might have an impact on the greater mining activities, including the underground operation include:

1. Water scarcity. This could place strain on water-intensive processes such as drilling, processing, and sanitation. It could also increase tension between the mine and the communities for water availability. It could make it difficult to reestablish vegetation in disturbed areas.
2. Hotter Climate. Although the hotter outside temperatures would not likely affect deep underground temperatures, it could affect the reestablishment of vegetation in disturbed areas. And increased evaporation of dewater water which forms part of re-use for the underground operations.
3. Energy requirements. With changes in temperature, the cooling of underground and surface operations or heating of spaces and offices during colder temperatures increases energy requirements. Cooling and heating systems are major energy consumers in mining operations. With higher rainfall more pumping is required which is also required more energy.
4. Employee health and safety. The risk of increases in communicable diseases, exposure to heat-related illnesses, and the likelihood of accidents related to rising temperatures.

8 Mitigation Measures and Adaptation Measures

As the proposed project is located over 1km underground and does not include any surface infrastructure or activities there are no considerable aspects that are affected by climate change that can be mitigated.

Prosed mitigation measures to manage climate change impacts for this project would include:

- Monitoring rainfall and temperature on site and developing a Water Conservation and Demand Management Plan for the entire operation;
- Make use of machinery that has lower emissions ratings;
- Investigate technology that has a lower environmental impact;
- Monitoring energy consumption. Investigate renewable energy options for the operations.

9 Conclusion and Recommendations

The assessment has taken into the possible impacts that the Project will have on Climate Change and the possible impacts that Climate Change might have on the Project.

In terms of the possible impacts the operations will have on climate change, the fact that there is currently no infrastructure, surface disturbances, or activities planned, the Project would have very low impacts on climate change.

It is recommended that a detailed emissions study and calculations study be done once the development of the SOFS project has commenced and data becomes available, as well as when a detailed mine layout plan and infrastructure plan have been developed for the project site. The mine should report emissions data to the national and provincial authorities, as data providers as per the requirements of the NEMAQA when the project commences.

In conclusion, the SOFS project will produce greenhouse gas emissions which will contribute to the overall anthropogenic climate change impacts. The possibility, extent, and duration of greenhouse gas emissions cannot be quantified with the current mine plan and available information. The possible impacts based on the current plan are however very low to low. There is with the current project plan no major impact foreseen on climate change which should be considered by the Company Authority when making the decision on the Application. It is recommended that the recommendation is placed in the authorisation that the Mine should adhere to relevant regulations and acts.

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Appendix C-3: Heritage Impact Desktop Assessment

HERITAGE SURVEY OF THE SOUTHERN ORANGE FREE STATE (SOFS) MINING RIGHT OF SIBANYE GOLD LIMITED

FOR GCS ENVIRONMENT SOUTH AFRICA (PTY) LTD

DATE: 28 MAY 2024

REVISED 6 JULY 2024

By Gavin Anderson

Umlando: Archaeological Surveys and Heritage Management

PO Box 10153, Meerensee, 3901

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Abbreviations

HP	Historical Period
IIA	Indeterminate Iron Age
LIA	Late Iron Age
EIA	Early Iron Age
ISA	Indeterminate Stone Age
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
HIA	Heritage Impact Assessment
PIA	Palaeontological Impact Assessment

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INTRODUCTION

Witwatersrand Consolidated Gold Resources (Pty) Limited ("WitsGold"), a wholly owned subsidiary of Sibanye Gold Limited ("Sibanye-Stillwater"), is the holder of the SOFS Mining Right under DMRE Reference number: FS30/5/1/2/2(10005) MR.

Sibanye Stilwater acquired the SOFS assets through their acquisition of Wits Gold in July 2014. These assets include the mining and prospecting rights formerly held by Wits Gold. In June 2017, a mining right consolidating four areas of the property (Bloemhoek, De Bron Merriespruit, Hakkies and Robijn) was approved for a 23-year period and executed. The mining right is contiguous to the north-east of the Beatrix mining right. The SOFS project area extends over numerous farms (see list on page 1 and refer to the map on page 4).

On 30 November 2018, Wits Gold submitted a Section 102 application in terms of the Minerals and Petroleum Resources Development Act (MPRDA) to incorporate the mentioned properties into the mining right. The application was successful and thus the amendment to the EMPr in terms of the NEMA.

SOFS mining activities will be concentrated on extracting gold from underground deposits. Sibanye Stillwater intends to utilise current infrastructure from the existing Beatrix Mine operations. It is envisaged that no additional surface infrastructure will be required for SOFS, this is to ensure that the surface environment is not disturbed beyond the existing footprint. There will be no surface impact.

Umlando was contracted to undertake the desktop heritage impact assessment of the proposed extension...

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ASSUMPTIONS AND LIMITIATIONS

- The footprint of the proposed development will remain within the site boundary provided to Umlando by the client.

SCOPE OF WORK

Undertake a desktop survey of the study area to record any heritage features and/or sites.

SITE SENSITIVITY SCREENING

The site sensitivity screening report noted the area is of low heritage value and high palaeontological value. I disagree with the first rating as it ignores human remains.

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FIG. 1 GENERAL LOCATION OF THE TURBINES & PROPOSED ACCESS ROADS

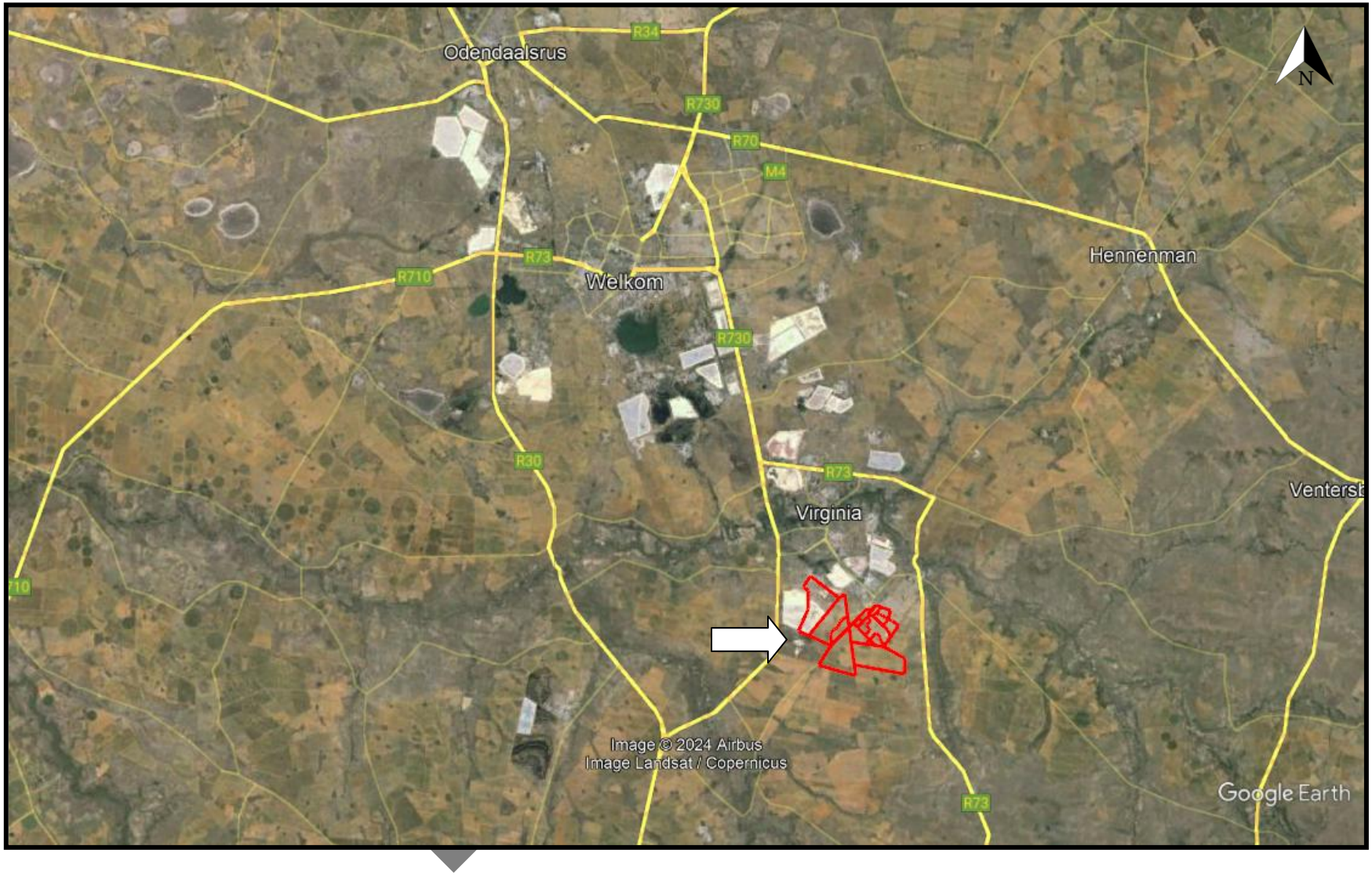

FIG. 2: AERIAL OVERVIEW OF THE

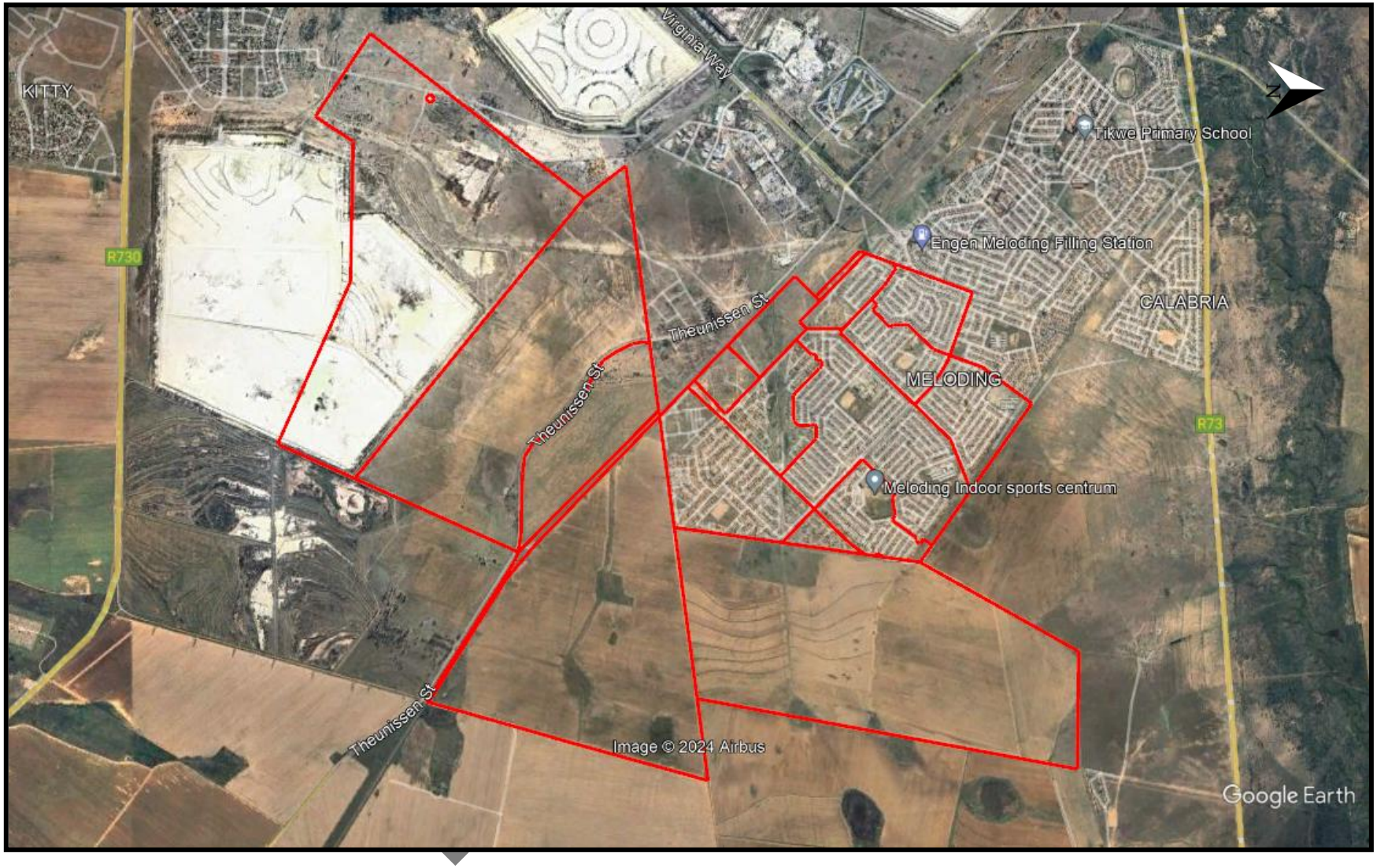

FIG. 3: 1:50 000 TOPOGRAPHICAL MAP OF THE STUDY AREA

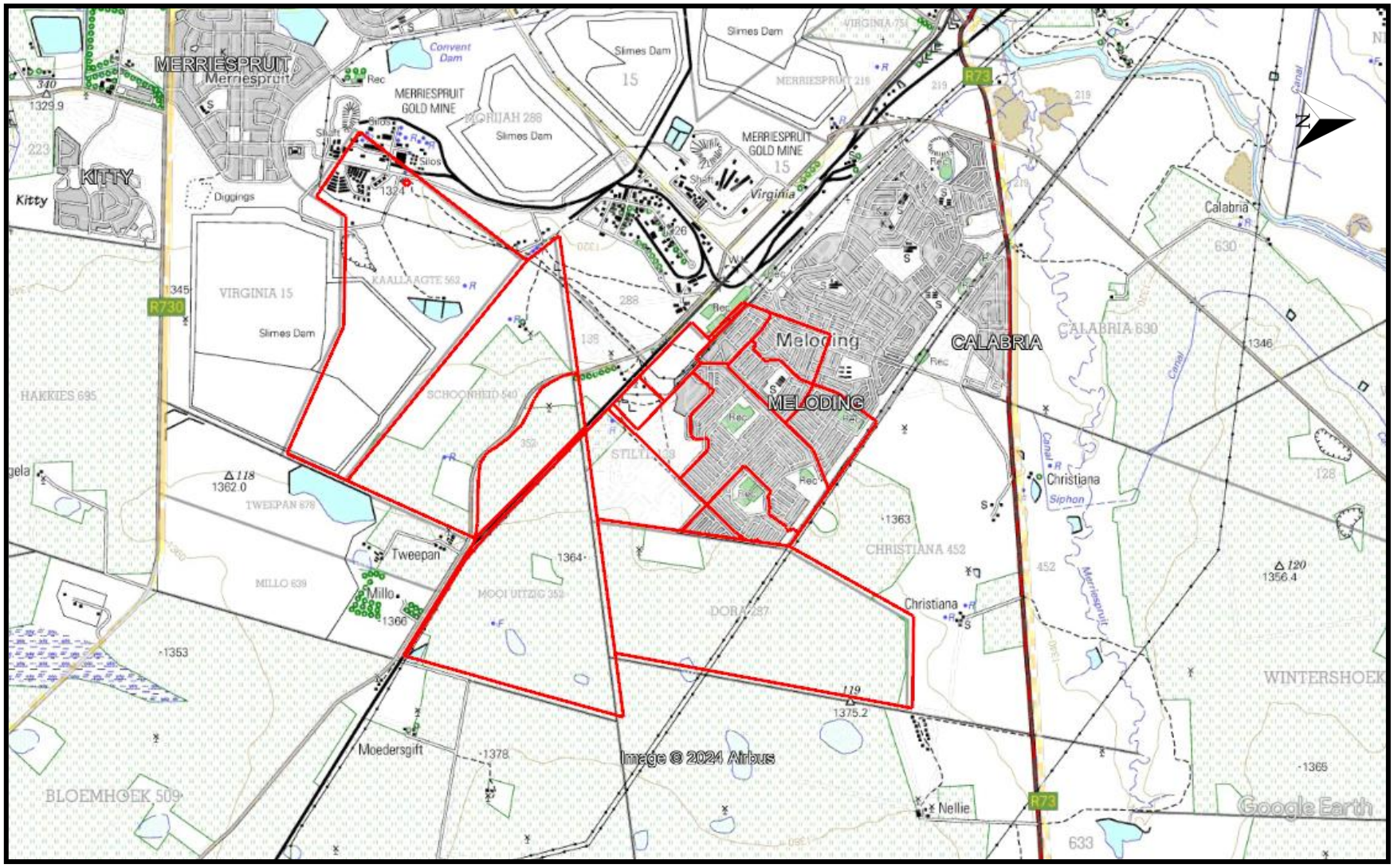

FIG. 4: SCENIC VIEWS OF THE STUDY AREA

NATIONAL HERITAGE RESOURCES ACT OF 1999

The National Heritage Resources Act of 1999 (pp 12-14) protects a variety of heritage resources. This are resources are defined as follows:

1. **"**For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
2. Without limiting the generality of subsection (1), the national estate may include—
   - 2.1. Places, buildings, structures and equipment of cultural significance;
   - 2.2. Places to which oral traditions are attached or which are associated with living heritage;
   - 2.3. Historical settlements and townscapes;
   - 2.4. Landscapes and natural features of cultural significance;
   - 2.5. Geological sites of scientific or cultural importance;
   - 2.6. Archaeological and palaeontological sites;
   - 2.7. Graves and burial grounds, including—
     - 2.7.1. Ancestral graves;
     - 2.7.2. Royal graves and graves of traditional leaders;
     - 2.7.3. Graves of victims of conflict;
     - 2.7.4. Graves of individuals designated by the Minister by notice in the Gazette;
     - 2.7.5. Historical graves and cemeteries; and
     - 2.7.6. Other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
3. Sites of significance relating to the history of slavery in South Africa;
   - 3.1. Movable objects, including—

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4. Objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
   4.1. Objects to which oral traditions are attached or which are associated with living heritage;
   4.2. Ethnographic art and objects;
   4.3. Military objects;
   4.4. objects of decorative or fine art;
   4.5. Objects of scientific or technological interest; and
   4.6. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).
5. Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—
   5.1. Its importance in the community, or pattern of South Africa's history;
   5.2. Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
   5.3. Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
   5.4. Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
   5.5. Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
   5.6. Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
   5.7. Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
   5.8. Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and

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5.9. sites of significance relating to the history of slavery in South Africa"

METHOD

The method for Heritage assessment consists of several steps.

The first step forms part of the desktop assessment. Here we would consult the database that has been collated by Umlando. These database contain archaeological site locations and basic information from several provinces (information from Umlando surveys and some colleagues), most of the national and provincial monuments and battlefields in Southern Africa (http://www.vuvuzela.com/googleearth/monuments.html) and cemeteries in southern Africa (information supplied by the Genealogical Society of Southern Africa). We use 1st and 2nd edition 1:50 000 topographical and 1937 aerial photographs where available, to assist in general location and dating of buildings and/or graves. The database is in Google Earth format and thus used as a quick reference when undertaking desktop studies. Where required we would consult with a local data recording centre, however these tend to be fragmented between different institutions and areas and thus difficult to access at times. We also consult with an historical architect, palaeontologist, and an historian where necessary.

The survey results will define the significance of each recorded site, as well as a management plan.

All sites are grouped according to low, medium, and high significance for the purpose of this report. Sites of low significance have no diagnostic artefacts or features. Sites of medium significance have diagnostic artefacts or features and these sites tend to be sampled. Sampling includes the collection of artefacts for future analysis. All diagnostic pottery, such as rims, lips, and decorated sherds are sampled, while bone, stone, and shell are mostly noted. Sampling usually

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occurs on most sites. Sites of high significance are excavated and/or extensively sampled. Those sites that are extensively sampled have high research potential, yet poor preservation of features.

Defining significance

Heritage sites vary according to significance and several different criteria relate to each type of site. However, there are several criteria that allow for a general significance rating of archaeological sites.

These criteria are:

1. State of preservation of:

1.1. Organic remains:

1.1.1. Faunal

1.1.2. Botanical

1.2. Rock art

1.3. Walling

1.4. Presence of a cultural deposit

1.5. Features:

1.5.1. Ash Features

1.5.2. Graves

1.5.3. Middens

1.5.4. Cattle byres

1.5.5. Bedding and ash complexes

2. Spatial arrangements:

2.1. Internal housing arrangements

2.2. Intra-site settlement patterns

2.3. Inter-site settlement patterns

3. Features of the site:

3.1. Are there any unusual, unique or rare artefacts or images at the site?

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3.2. Is it a type site?

3.3. Does the site have a very good example of a specific time period, feature, or artefact?

4. Research:

4.1. Providing information on current research projects

4.2. Salvaging information for potential future research projects

5. Inter- and intra-site variability

5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?

5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?

6. Archaeological Experience:

6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate sites that have potentially significant aspects, but need to be tested prior to any conclusions.

7. Educational:

7.1. Does the site have the potential to be used as an educational instrument?

7.2. Does the site have the potential to become a tourist attraction?

7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

8. Other Heritage Significance:

8.1. Palaeontological sites

8.2. Historical buildings

8.3. Battlefields and general Anglo-Zulu and Anglo-Boer sites

8.4. Graves and/or community cemeteries

8.5. Living Heritage Sites

8.6. Cultural Landscapes, that includes old trees, hills, mountains, rivers, etc related to cultural or historical experiences.

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The more a site can fulfill the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. This occurs in Phase 2. These test-pit excavations may require further excavations if the site is of significance (Phase 3). Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

The above significance ratings allow one to grade the site according to SAHRA's grading scale. This is summarised in Table 1.

TABLE 1: SAHRA GRADINGS FOR HERITAGE SITES

SITE SIGNIFICANCE	FIELD RATING	GRADE	RECOMMENDED MITIGATION
High Significance	National Significance	Grade 1	Site conservation / Site development
High Significance	Provincial Significance	Grade 2	Site conservation / Site development
High Significance	Local Significance	Grade 3A / 3B	
High / Medium Significance	Generally Protected A		Site conservation or mitigation prior to development / destruction
Medium Significance	Generally Protected B		Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
Low Significance	Generally Protected C		On-site sampling monitoring or no archaeological mitigation required prior to or during development / destruction

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DESKTOP STUDY

The desktop study consisted of analysing various maps for evidence of prior habitation in the study area, as well as for previous archaeological surveys. There are no known heritage surveys within the study area.

There have been a few surveys in neighbouring farms (fig. 5). These surveys recorded old farm buildings, farm labourer's houses and/or graves.

The 1944 aerial photograph indicates there are seven buildings and two settlements within the study area. The buildings have been demolished or are ruins, while the settlements appear to have been ploughed over. Meloding has also demolished three buildings.

The 1954 topographical map indicates that there are twelve settlements and three farm buildings. Only the ruins from the Farm Skoonheid are visible while all other buildings no longer exist. Settlements 1 – 3 have been demolished by the goldmine. Settlements 4 – 6 appear to have been ploughed. Settlements 7 - 11 are on the border of Meloding, while Settlement 12 has been demolished by Meloding.

The desktop study suggests the study area is of medium heritage significance with a high chance of human graves occurring below the surface.

The coordinates for these features are given in Table 1.

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TABLE 1: LOCATION OF RECORDED FEATURES

Name	Latitude	Longitude	Description
Buildings	-28.143395512	26.872447185	Building (1944)
Buildings	-28.165794903	26.863650766	Building (1944)
Buildings	-28.126547722	26.855861374	Buildings (1944)
Settlement	-28.161903246	26.866296934	House and possible graves (1944)
Buildings	-28.149531504	26.874396321	Buildings (1944)
Buildings	-28.148370108	26.884455556	Buildings (1944)
Buildings	-28.147471335	26.883061346	Buildings (1944)
Buildings	-28.148062523	26.883430284	Buildings (1944)
Buildings	-28.145422692	26.865717266	Buildings (1944)
Settlement	-28.138737960	26.871082122	House and possible graves (1944)
S3	-28.148383591	26.851388777	House and possible graves (1954)
S4	-28.141946547	26.867060569	House and possible graves (1954)
S5	-28.142724821	26.867037415	House and possible graves (1954)
S7	-28.138519444	26.885416667	House and possible graves (1954)
Tweepan	-28.150932965	26.858664052	Buildings (1954)
S1	-28.147050250	26.851899319	House and possible graves (1954)
S2	-28.147794246	26.851625433	House and possible graves (1954)
s6	-28.143349988	26.866512633	House and possible graves (1954)
Skoonheid	-28.135069041	26.866502073	Buildings (1954)
S8	-28.141751580	26.882288065	House and possible graves (1954)
S9	-28.142610185	26.882353693	House and possible graves (1954)
S10	-28.143591755	26.882309448	House and possible graves (1954)
S11	-28.144357737	26.881789860	House and possible graves (1954)
S12	-28.137386891	26.888789258	House and possible graves (1954)
Stilte	-28.138264958	26.889905055	Buildings (1954)

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FIG. 5: LOCATION OF RECORDED SITES WITHIN THE GENERAL AREA

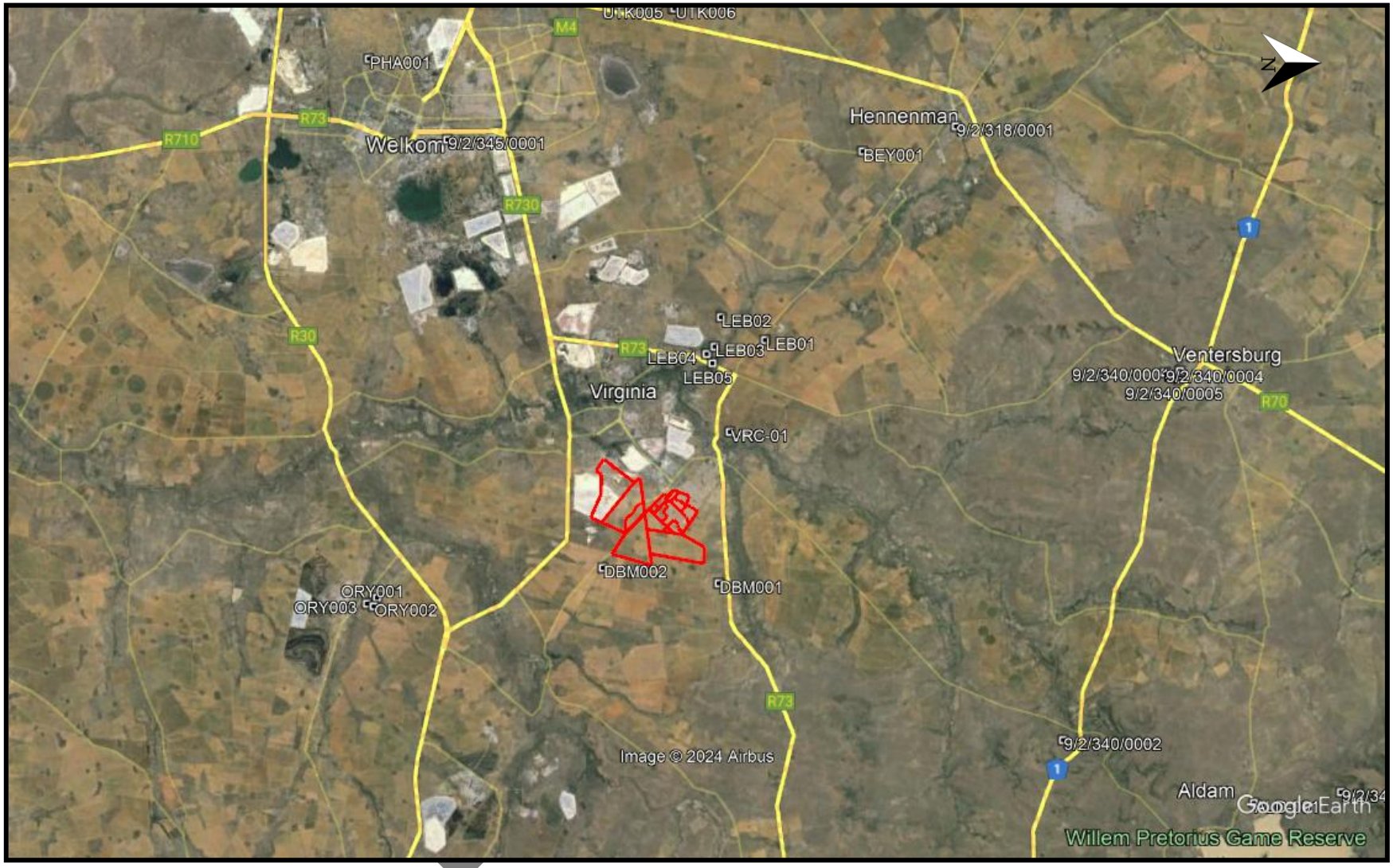
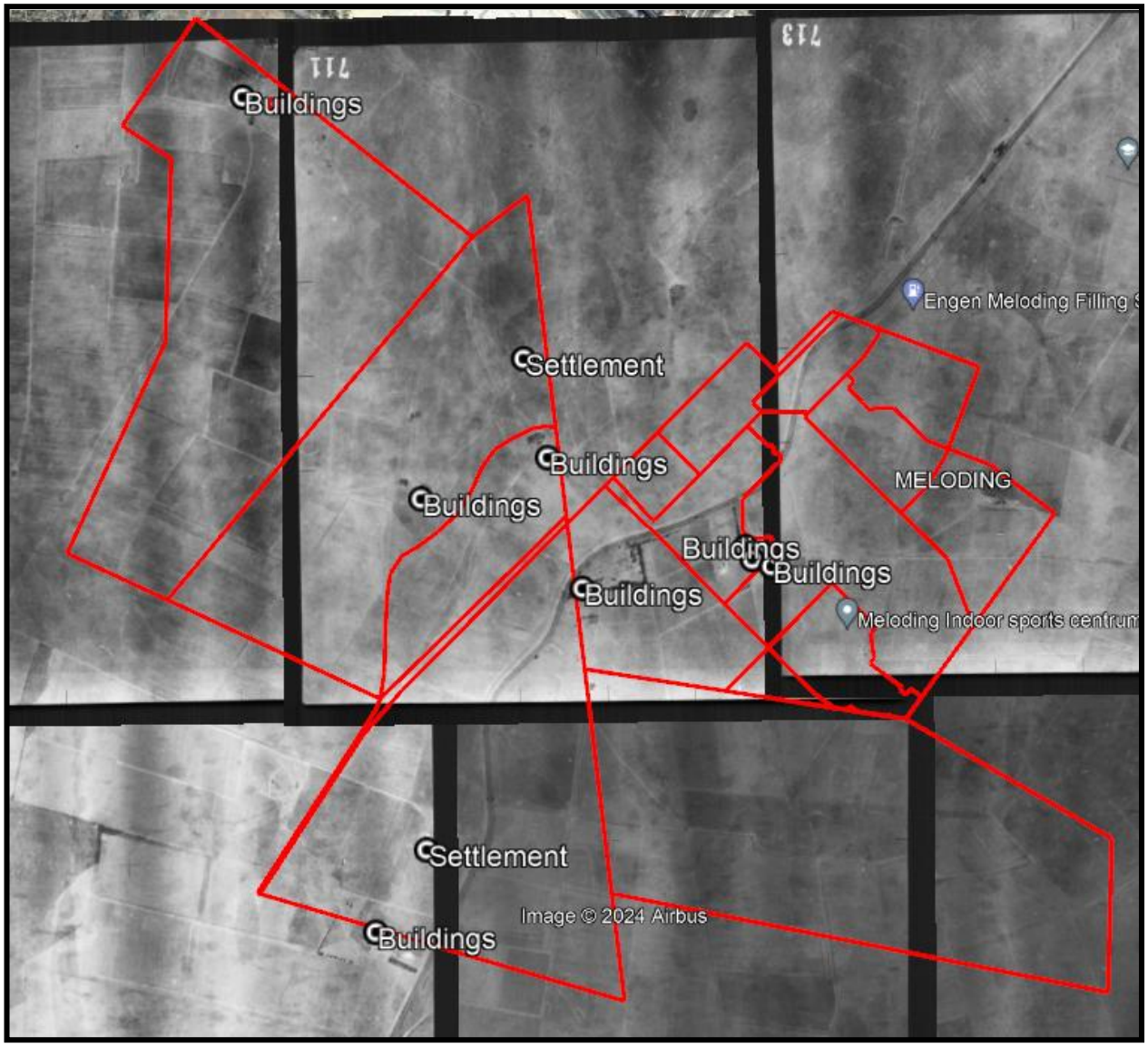
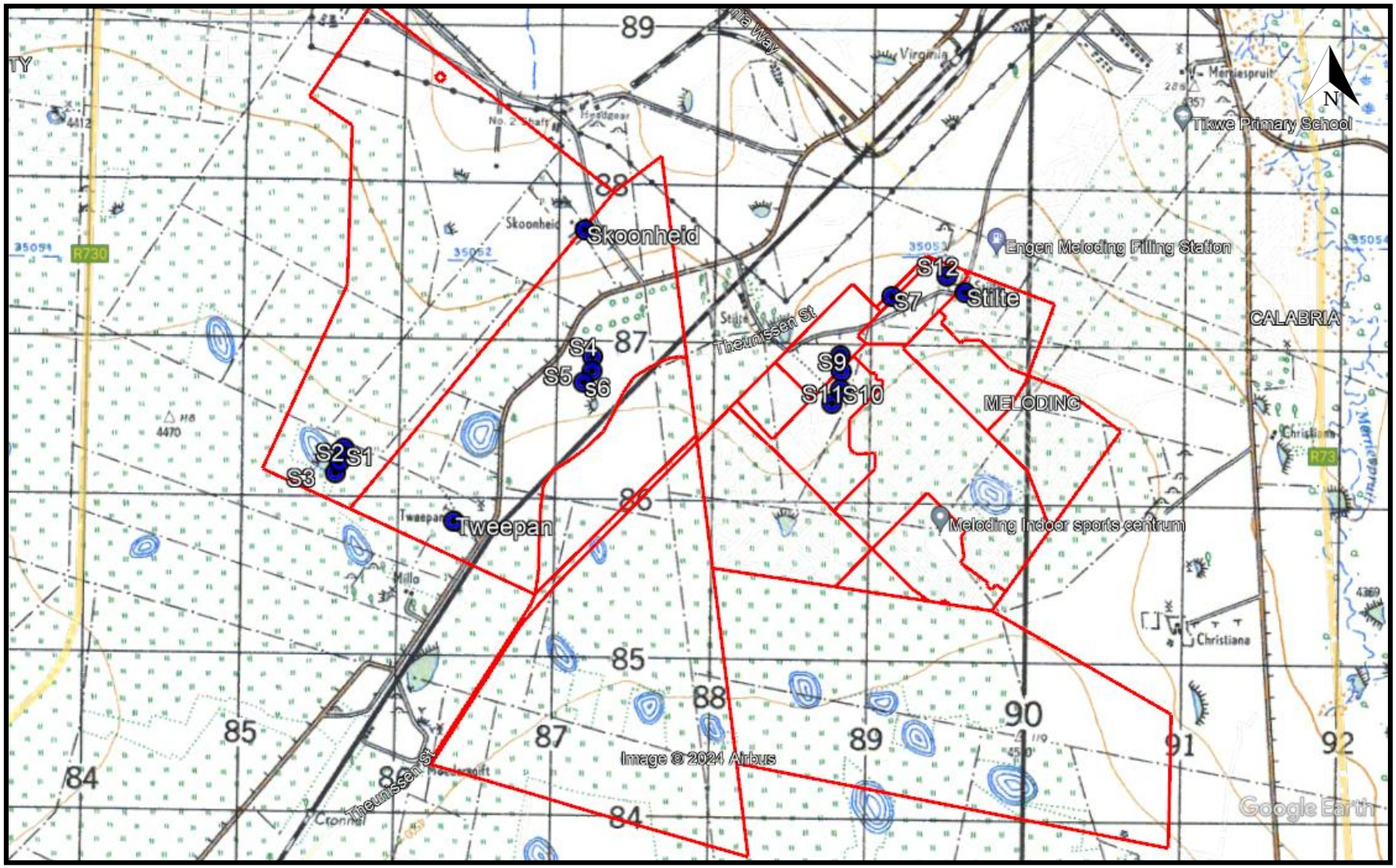


FIG. 6: LOCATION OF THE STUDY AREA IN 1944[1]



[1] 80_009_00803, 80_009_00805,80_009_00807, 80_009_00809, 80_008_00711, 80_008_00713

FIG. 7: LOCATION OF THE STUDY AREA IN 1954[2]



[2]2826BB Virginia 1954

PALAEONTOLOGICAL SENSITIVITY

The footprint is in an area of medium palaeontological sensitivity (fig. 8). The depth of the mine from the surface, will determine if a field survey will be required. Given that most of the mining will be underground, it is unlikely to affect fossiliferous layers. The geotechnical report will assist in this assessment.

FIG. 8: PALAEONTOLOGICAL SENSITIVITY MAP

COLOUR	SENSITIVITY	REQUIRED ACTION
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

RECOMMENDATIONS

The chances of heritage features occurring on the surface of the footprint is very high. These features will range from low significance (e.g. the ruins) to high significance (e.g. graves). A phase 1 HIA would be required if the surface footprint were to be affected in any manner.

CONCLUSION

A desktop heritage survey was undertaken for the proposed goldmine extension. The extensions will be subsurface There will be no surface impact. Sibanye Stillwater intends to utilise current infrastructure from the existing Beatrix Mine operations. It is envisaged that no additional surface infrastructure will be required for SOFS, this is to ensure that the surface environment is not disturbed beyond the existing footprint.

The desktop noted that there were a few heritage features within the footprint. Most of these consisted of settlements that could have human graves. The farmhouses have been demolished and are ruins or no longer exist.

A Phase 1 HIA would be required if any surface disturbance occurs.

REFERENCES

2826BB Virginia 1954,1990.
80_009_00803
80_009_00805
80_009_00807
80_009_00809
80_008_00711
80_008_00713

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EXPERIENCE OF THE HERITAGE CONSULTANT

Gavin Anderson has a M. Phil (in archaeology and social psychology) degree from the University of Cape Town. Gavin has been working as a professional archaeologist and heritage impact assessor since 1995. He joined the Association of Professional Archaeologists of Southern Africa in 1998 when it was formed. Gavin is rated as a Principle Investigator with expertise status in Rock Art, Stone Age and Iron Age studies. In addition to this, he was worked on both West and East Coast shell middens, Anglo-Boer War sites, and Historical Period sites.

DECLARATION OF INDEPENDENCE

I, Gavin Anderson, declare that I am an independent specialist consultant and have no financial, personal or other interest in the proposed development, nor the developers or any of their subsidiaries, apart from fair remuneration for work performed in the delivery of heritage assessment services. There are no circumstances that compromise the objectivity of my performing such work.

Gavin Anderson
Archaeologist/Heritage Impact Assessor

DRAFT

Appendix C-4: Wetland Impact Assessment

Wetland Assessment

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Project Assessment Details & Declaration Of Independence

Report prepared by:	Dr Nivarya Naidoo
Date:	20/06/2024
Client:	GCS Water and Environmental Consultants

I, the undersigned hereby declare that I act as an independent specialist consultant in the field of Environmental Science including, *inter alia*, Wetland Assessments.

Dr Nivarya Naidoo

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1. Introduction

This report details the Baseline Wetland Assessment, which involved desktop- and field-based investigations of the wetlands situated within 500m of the study site. The aim of the assessment was to delineate and classify the wetlands on site and to provide a better understanding of the risk, importance, sensitivity, health and functionality of the wetlands.

1.1. Wetland Characteristics

Wetlands can be described as areas of land flooded or saturated for long periods of time. They are intermediate zones between terrestrial lands and aquatic ecosystems, usually occurring when the water table is located just below the surface.

Wetlands, as defined by the National Water Act, (Act 36 of 1998), include: *"Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil."*

Under Articles 1.1 and 2.1 of the Ramsar Convention wetlands are defined as: *"areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres" and "may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands."*

Certain plants have adapted to wetland conditions such as growing in anaerobic soil (Ramachandra and Kumar, 2008). The space that exist between soils particles usually become filled with water due to the soil becoming increasingly wet. A typical characteristic of wetlands is their ability to drain water extremely slowly therefore becoming waterlogged. Anaerobic conditions usually occur in waterlogged wetland soils due to the rapid usage of oxygen by organisms and plant roots. Wetlands vary widely because of regional and local differences in soils, topography, climate, hydrology, water chemistry, vegetation and other factors, including human disturbance.

Wetlands are therefore characterized by soil saturation together with redoxymorphic features; high clay and organic matter content in soils; a suite of characteristic wetland vegetation types and particular topographic settings in which they occur. The Department of Water and Sanitation (DWS) requirement is that more than one distinguishing characteristic must be present before positive identification of wetlands is accomplished.

1.2. The importance of wetlands

Wetlands are considered to be one of the most valued and important ecosystems as they provide a plethora of benefits, not only to the natural environment, but to humans as well (Ramsar Convention on Wetlands, 2018). In particular, wetlands have been studied to improve water quality, often referred to as the 'kidneys of the Earth' and serve as reservoirs which allow for the

gradual stable release of water throughout the year. This also proves as an added benefit during flood occurrences as wetlands play a vital role in mitigating flooding by decreasing their initial velocity by absorbing excess flood waters, as well as trapping suspended solids.

1.3. The scope of work

The scope of work for the proposed study is as follows:

- Identify and demarcate the wetlands at risk within the 500m buffer of the site based on aerial photography and available wetland coverage data via a desktop survey
- To conduct a comprehensive field survey to identify and delineate wetlands using the Department of Water Affairs & Forestry guideline manual (DWAF, 2005)
- Thereafter to classify and describe the wetlands affected by the proposed underground mining activities using the National Wetland Classification System for Wetlands and other Aquatic Ecosystems in South Africa (Ollis et al., 2013)
- To undertake a rapid desktop aquatic screening and risk assessment to determine which of the desktop delineated wetlands are likely to be affected by the proposed underground mining activities;
- To establish the present Ecological State (PES) of the affected wetlands using a Level 1 WET-Health assessment tool (Macfarlane et al., 2008);
- To assess the importance of the affected wetland areas in providing ecosystem goods and services using a Level 2 WET-EcoServices assessment tool (Kotze et al., 2009);
- To assess the Ecological Importance and Sensitivity (EIS) of the affected wetland areas (Kleynhans, 1999);
- To identify and describe the potential aquatic ecological impacts associated with the proposed underground mining activities; using the risk assessment tool (DWS, 2015);
- To provide wetland buffer zone recommendations based on best-practice guidelines and available buffer zone guidelines;
- To provide suitable recommendation and mitigation measures for the wetland environments to maintain and ideally improve the wetland ecological health status and provision of eco-services.

1.4. Assumptions and limitations to the study

- The site visit was conducted on the 27/05/2024 during the onset of the dry season of Gauteng according to South African National Biodiversity Institute (SANBI), thus wetland boundary verification during this period is assumed to be slightly narrower.
- Due to the scale of the imagery (1:10 000 orthophotos and Google Earth® Imagery), as well as the accuracy of the handheld Global Positioning System (GPS) Unit, the delineated wetland boundaries may have a marginal error of approximately 5m.

1.5. Legislative Framework

The table below outlines the national and international legislation, together with a short description of the relevant portions application to wetlands:

Table 1.1: A review of the applicable guidelines under international and national legislation

International Legislation	
Name	**Short Description and Relevant section/s**
RAMSAR Convention	Importance is placed on the ecological, economic and social feasibility of wetland restoration programmes in order to protect wetlands by implementing initiatives to maintain or improve the state of wetland resources
Convention on Biological Diversity	An important tool for the in situ conservation of biodiversity is wetland rehabilitation. Countries are to rehabilitate and restore degraded ecosystems and promote the recovery of threatened species through the formulation and implementation of appropriate plans and strategies
United Nations Convention to Combat Desertification	Countries are to respond to land degradation and the effects of drought which includes the rehabilitation, conservation and sustainable management of land and water resources. South Africa has responded by developing a National Action Plan which aims to implement current and future policies that affect the natural resource management and rural development as well as to establish partnerships between all sectors this includes government departments, overseas development agencies, the private sector and non-governmental organizations
New Partnership for Africa's Development (NEPAD)	One of the eight themes under the environmental initiative is wetland conservation
The World Summit on Sustainable Development (WSSD)	The implementation plan places emphasis on the actions that reduce the risk of flooding in drought-vulnerable countries through promoting the restoration and protection of wetlands and watersheds

Table 1.2: A review of the applicable guidelines under national legislation

National Legislation	
Name	**Short Description and Relevant section/s**
South African Constitution No. 108 of 1996	The constitution is the overarching framework of South African law. It provides a legal foundation for the existence of the republic, outlines the rights and responsibilities of South African citizens and it defines the structure of government Chapter 2- Bill of rights (Section 24) Everyone has a right to an environment that is not harmful to their health or wellbeing and is protected through reasonable legislative or other measures. (Section 27) National government is the custodian of all the country's water resources
National Environmental Management Act (NEMA) No. 107 of 1998	This is an overarching statute regulating various aspects of natural resource use, integrating environmental management and pollution control. It provides principles and guidelines for sensitive, dynamic or stressed ecosystems i.e. wetlands. NEMA effectively promotes sustainable development into all planning and decision-making processes and adopts principles such as the 'precautionary approach,' 'polluter pays approach,' and requires that environmental responsibility be taken throughout the lifecycle of a project. Chapter 5 – Integrated Environmental Management (Section 24) provides for the prohibition, restriction and control of activities which are likely to have detrimental effects on the environment. The activities listed in the environmental impact assessment regulations that require assessment and environmental assessment have been promulgated in 2010 under NEMA. A number of activities listed in the regulations have relevance to wetland environments including a range of activities within 32m of a water course (including wetlands)
National Water Act No. 36 of 1998	This act provides a framework to protect the country's water resources this includes rivers, streams, estuaries, dams, wetlands and groundwater as well as the sustainable management thereof. The act provides guidelines and procedures on the protection, management and use of water resources in a controlled and integrated manner. Chapter 4 – Use of water - Deals with setting the basis for regulating water usage as well as details of various types of licensed and unlicensed entitlements to the use of water. Water use has a broad definition in the Water Act and requires that any

	activities with a potential impact on wetlands (within a parameter of 500m upstream or downstream of a wetland) be authorized. Chapter 19 (1) - "An owner of land, a person in control of land or a person who occupies or uses the land on which a) any activity or process is or was performed or undertaken; which caused or likely to cause pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring." General Authorisations (GAs) – have been promulgated under the National water Act and were published under GNR 398 of 2004. Any uses of water which do not meet the requirements of Schedule 1 or GAs, require a license which should be obtained from the Department of Water Affairs and Forestry
National Environmental Management Act: **Biodiversity Act No. 10 of 2004**	This act provides the management and conservation of the country's biodiversity within the framework of NEMA 1998. The sustainable use of indigenous biological resources and the protection of species and ecosystems that warrant natural protection as well as to ensure the fair and equitable sharing of the benefits arising from the use of biological resources. It addresses aspects such as protection of threatened ecosystems and requires a duty of care relating to listed invasive alien plants
Conservation of Agriculture Resource Act (CARA) No. 43 of 1983	This act deals with control of the over-utilization of South Africa's natural agricultural resources, and to promote the conservation of soil and water resources and natural vegetation. This includes wetland systems and requires authorizations to be obtained for a range of impacts associated with cultivation of wetland areas

2. Methodology

2.1. Desktop study

A desktop survey was conducted to identify potential wetland and fluvial areas of interest within the site. This was accomplished using a 500m buffer of the study area via satellite imagery and shape files obtained. The delineation of the assessed wetland boundaries were conducted at desktop level and later verified via a comprehensive field survey.

2.2. Field assessment of wetland delineation

A comprehensive wetland delineation field survey was undertaken on the 27th May 2024 to accurately delineate boundaries of wetland environments in the proposed underground mining site and surrounding 500 m buffer area. The field survey comprised of augering and logging of numerous sediment cores to 50cm or slightly greater depths. The field survey included the identification of wetland areas, delineation of the outer boundaries of the wetland and classifying the wetland type.

2.2.1. Wetland delineation

Four specific wetland indicators were used to identify/verify wetland areas:

- terrain unit,
- vegetation (Table 2.1);
- soil: texture (sand & clay); colour (chroma, hue & value); organic matter and;
- degree of saturation (MacFarlane *et al*., 2008).

Once wetland areas were identified, wetland delineation was undertaken. The wetland delineation procedure identifies the outer edge of the temporary wetland zone, marking the boundary between the aquatic and adjacent terrestrial areas. The wetland delineation field verification began at the lowest lying point of the wetland and proceeded outwards into the permanent, seasonal and ultimately the outermost temporary zone (Figure 3.1) (DWAF, 2008)

To identify the outer edge of the temporary wetland zone, a Dutch soil auger was used to extract sediment cores. The sediment samples were evaluated on-site for redoximorphic soil features such as mottling, soil wetness and gleying after which the samples were discarded.

Table 2.1: Classification of plants according to the occurrence in wetlands (DWAF, 2008)

Type	Description
Obligate Wetland Species	Almost always grow in wetlands (> 99% of occurrences)
Facultative Wetland Species	Usually grow in wetlands (67%-99% of occurrences) but occasionally are found in non-wetland areas
Facultative Species	Are equally likely to grow in wetlands and non-wetland areas (34%-66% of occurrences)
Facultative Dry-land Species	Usually grow in non-wetland areas but sometimes grow in wetlands (1%- 34% of occurrences)

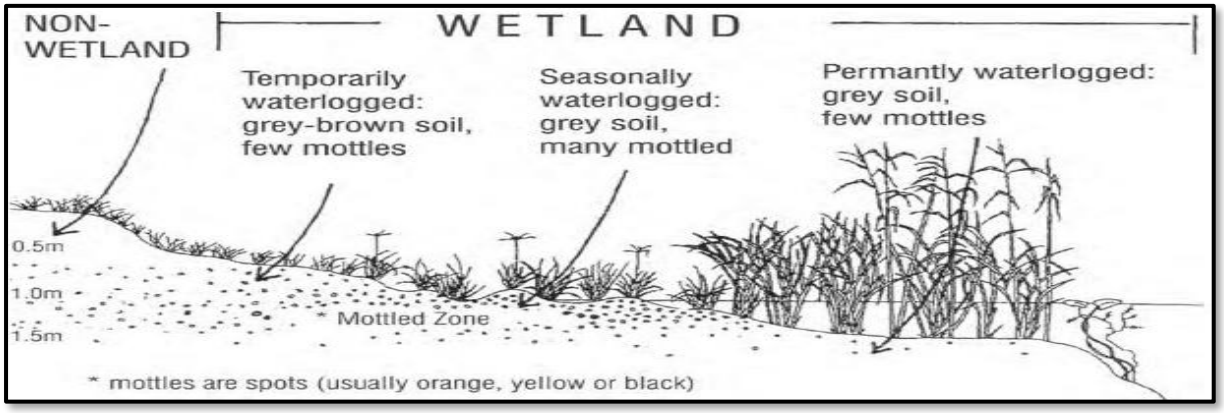


Figure 2.1: Cross sectional diagram of a wetland, indicating how the soil moisture and vegetation indicators change as one moves along a gradient of decreasing wetness, from the middle to the edge of the wetland (DWAF, 2005)

The GPS coordinates of all soil sampling locations were captured and mapped Google Earth for further processing and analysis. Aerial photography, field notes and coordinates of the sampling sites were then used in combination to identify and delineate the extent of wetland areas.

2.3. Classification of the field wetland delineation into HGM units

Wetlands may comprise of one or more Hydrogeomorphic (HGM) units. In this study, 8 HGM units were identified. The wetland areas identified were classified into HGM units according to the National Wetland Classification System developed by the SANBI (Ollis et al., 2013) and DWAF (2008). The HGM classification system uses the geomorphological and hydrological features of the delineated wetland unit to determine its classification. The features that are assessed relate to the way in which water behaves in the wetland system.

2.4. Wetland screening

A wetland screening was conducted to determine if the delineated wetlands were likely to be affected by the proposed establishment of the proposed Dawn Park Bulk Water Pipeline development and the likelihood of it triggering aspects of a National Water Act, Section 21 (c and i). Any wetlands that falling within the impact zone, within the minor catchment of the proposed development of the site, and were potentially at risk, are normally screened further. However, this was not required in this study as none of the HGMs lie within the impact zone.

The first phase of the risk assessment was conducted at desktop level using a 30m buffer of the delineated wetlands to the proposed situation of the pipelines. This aided the determinations of which of the desktop delineated wetlands within the 500m buffer were likely to be affected by the proposed Dawn Park Pipeline project.

2.5. Risk Assessment

Those wetlands identified to be within the sphere of influence of proposed developments are further assessed using the risk assessment tool developed by the DWS (2015): "Aspects and impact register/risk assessment for watercourses including rivers, pans, wetlands, springs, drainage lines." The risk assessment involves scoring parameters with a rating between 1 and 5. A risk category class is derived for each activity/aspect (Table 2.2).

- A low risk category should be subjected to duty of care.
- A wetland that scores a moderate/high risk rating for any of the impacts should be subjected to a full wetland functional assessment.

The tool used to determine the functionality of a wetland is described below

Table 2.2: Risk assessment categorization

RATING	CLASS	MANAGEMENT DESCRIPTION
1 – 55	(L) Low Risk	Impact to watercourses and resources quality small and easily mitigated
56 – 169	(M) Moderate Risk	Risk and impact on watercourses are notable and require mitigation measures
170 – 300	(H) High Risk	Watercourse(s) impacts by the activity are such that they impose a long-term threat on a large scale

2.6. Wetland Functional assessment

Following the above, functional assessments are to be conducted on all wetlands assessed to be at risk of being compromised as a consequence of the activity. The functional assessment techniques that are to be used are normally: the WET-Health Level 1 assessment, WET-EcoServices Level 2 assessment; and the Ecological Importance and Sensitivity assessment.

2.7. WET-Health (Present Ecological State)

The state of the three main functional aspects of the wetland are considered for the WET-Health index. These include: (1) hydrology, (2) geomorphology and (3) vegetation.

Each of these functional aspects follows a broadly similar approach and is used to determine which anthropogenic impacts have affected the health status of the wetland. The overall score is integrated and expressed as a PES category depicted in Table 2.3 below.

Table 2.3: Present Ecological Status (PES) score categories for describing the integrity of wetlands

Impact Category	Health Category	Description	Range
None	A	Unmodified/natural	0 – 0.9
Small	B	Mostly natural with a few modifications. A slight change in ecosystem processes in discernible and a small loss of natural habitat and biota may have taken place	1- 1.9
Moderate	C	Moderately modified. A moderate change in the ecosystem processes and the loss of natural habitats has taken place but the natural habitat remains predominantly intact.	2 – 3.9
Large	D	Largely modified. A large change in ecosystem processes and loss of natural habitat and biota occurred.	4 – 5.9
Serious	E	A very large change in ecosystem processes and loss of natural habitat and biota but some of the remaining habitat features are still recognizable.	6 – 7.9
Critical	F	The modification has reaches a critical level and the ecosystem processes have been modified completely with an almost complete loss of the natural habitat and biota	8 – 10

2.8. WET-EcoServices (Ecological Goods and Services)

A WET-EcoServices Level 2 assessment evaluates the "ecological goods and services" provided by HGM units potentially affected by the proposed development. The tool provides information on the importance of wetlands in delivering different ecosystem services under a number of different categories listed below in Table 2.4 (Kotze et al., 2009).

Table 2.4 Wetland ecological goods and services assessed by the WET-EcoServices tools

Category	Service
Physical	Flood attenuation
	Stream flow regulation
	Sediment trapping
	Phosphate assimilation
	Nitrate assimilation
	Toxicant assimilation
	Erosion control
	Carbon storage
Social	Biodiversity maintenance
	Provision of water for human use
	Provision of cultural floods
	Cultural significance
	Tourism and recreation
	Education and research

The WET-EcoServices assessment technique focuses on assessing the extent to which a benefit is being supplied by the wetland habitat, based on both:

- The opportunity for the wetland to provide the benefits; and
- The effectiveness of the particular wetland in providing the benefit.

Ecosystem services, which include direct and indirect benefits to society and the surrounding landscape, are assessed by rating various characteristics of each wetland and their surrounding catchments, based on a scale of:

- Low (0)
- Moderately Low (1)
- Intermediate (2)
- Moderately High (3)
- High (4)

The scores obtained from these ratings for the wetland HGM units are then incorporated into WET-EcoServices scores for the ecosystem services.

2.9. Ecological Importance and Sensitivity (EIS)

The EIS scores are calculated using the methods outlined by the "Resource Directed Measures for Protection of Water Resources" (Kleynhans, 1999). This approach provides information on the ecological importance of the HGM unit in terms of unique biodiversity and sensitivity which refers to the system's ability to resist disturbance and its capability to recover from disturbance once it has occurred (resilience).

In this study, all of the wetlands were found to be situated at a distance from the underground mining which precluded them from any impacts due to the undergound mining.

Hence, no functional assessment was necessary for any of the HGMs.

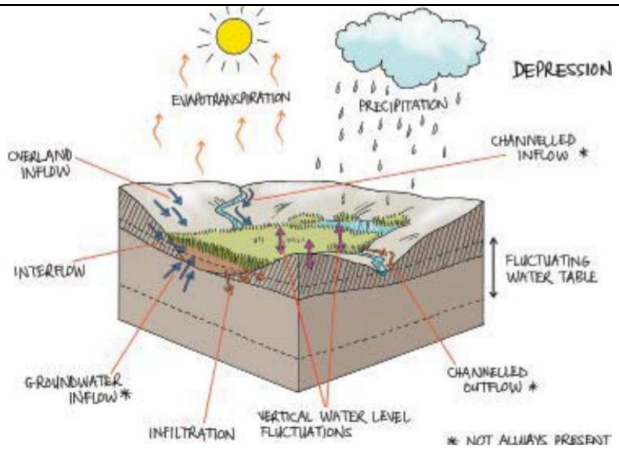
3. Results

3.1. Desktop study and field survey

The desktop and field surveys incorporated the identification of wetlands within the 500m buffer surrounding the site, where four (4) HGM units were identified and delineated (Figure 3.1).

For further understanding of the description of the HGM units occurring at the site, DWAF (2008) and Ollis et al (2013) created a generic description which is shown in Table 3.1 below

Table 3.1: HMG units present at the site and surrounding 500m buffer (DWAF, 2008 ; Ollis *et al.*, 2013)

Classification	Illustration	Description
Depression		Is a wetland or aquatic ecosystem with closed (or near-closed) elevation contours, which increases in depth from the perimeter to a central area of greatest depth and within which water typically accumulates. Most depressions occur where the water table intercepts the land surface. The hydrodynamics of a depression are, however, typically dominated by vertical water level fluctuations.

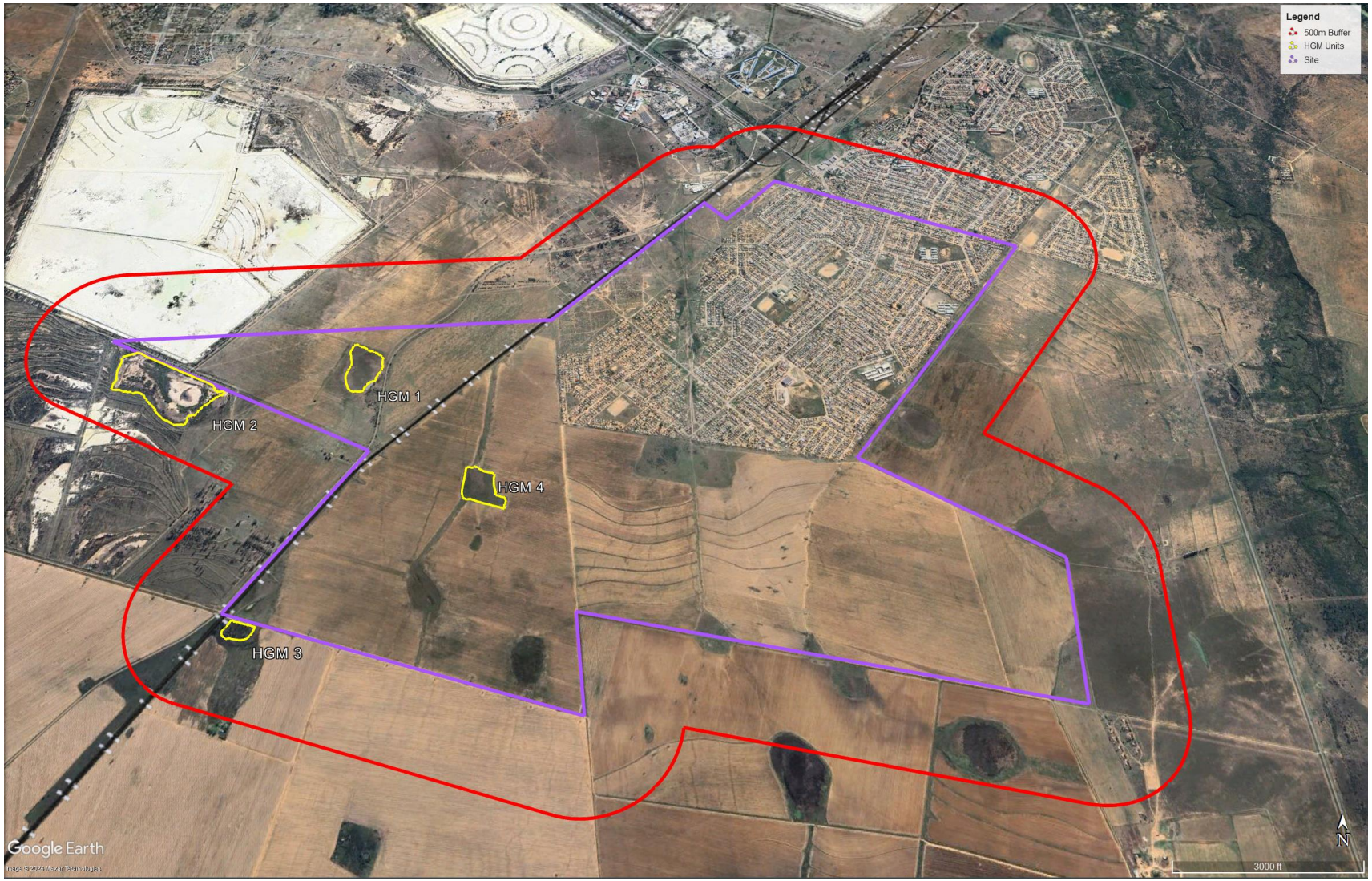


Figure 3.1: The HGM units found within the proposed underground mining site and surrounding 500m buffer

3.2. Hydrogeomorphic units

A summary table of the wetland and HGM units together with their characteristics is provided below (Table 3.2)

Table 3.2: Summary of the wetland characteristics

Wetland No.	HGM/RR No.	Wetland/RR Type	Extent (Ha)	Slope (%)	Length of HGM (m)
1	HGM 1	D/P	4.99	Negligible	332
2	HGM 2	D/P	16.6	2.6 %	652
3	HGM 3	D/P	1.25	4.2 %	142
4	HGM 4	D/P	3.91	1.6 %	253
D/P- Depression/ Pans					

3.2.1. HGM Unit 1: Wetland 1

Wetland 1, is made up of a single Depression/Pan HGM unit. The entire HGM 1 unit falls well within the surrounding 500m buffer and within the site itself. HGM 1 is located on the western portion of the site. The soil characteristics of HGM 1 contained high clay content and organic matter content. The soil was completely saturated and there was evidence of mottling. Most of the vegetation had been trampled by cattle who use the area for grazing and drinking water.

Figure 3.2: HGM Unit 1

Figure 3.3: (a) Cattle gathering to drink water at HGM Unit 1; (b) HGM Unit 1 soil with high clay content

3.2.2. HGM Unit 2: Wetland 2

Wetland 2, is made up of a single Depression/Pan HGM unit. The entire HGM 2 unit falls outside the site but well within the surrounding 500m buffer. HGM 2 is located just outside the western portion of the site. The soil characteristics of HGM 2 contained low to moderate clay content and there was evidence of mottling. The soil was moist and seems to only get fully saturated when it rains. The vegetation observed was dominated by *Phragmites*, however, at the time of the site visit, the species had withered and dried out.

Figure 3.3: HGM Unit 2

3.2.3. HGM Unit 3: Wetland 3

Wetland 3, is made up of a single Depression/Pan HGM unit. The entire HGM 3 unit falls outside the site but well within the surrounding 500m buffer. HGM 3 is located just outside the south western portion of the site. The soil characteristics of HGM 3 contained high clay content and the soil was completely saturated. The vegetation had been trampled by cattle who use the area for grazing and drinking water.

Figure 3.4: HGM Unit 3

3.2.4. HGM Unit 4: Wetland 4

Wetland 4, is made up of a single Depression/Pan HGM unit. The entire HGM 4 unit falls well within the surrounding 500m buffer and within the site itself. HGM 4 is located on the western portion of the site. The soil characteristics of HGM contained moderate clay content and the soil was moist. The vegetation noted was *Typha latifolia* and *Cyperaceae*. The wetland vegetation is is being encroached by terrestrial vegetation to a large extent.

Figure 3.5: HGM Unit 4

3.3. Screening of 'at risk' wetlands

The site assessment visit confirmed the location and extent of the watercourses and subsequent screening provided an indication of which of the watercourses that may potentially be impacted upon by the proposed Dawn Park Bulk Water Pipeline development. There are several factors known to have an influence on the level a watercourse will be impacted upon such as:

- The type of wetland system
- The position of the system in relation to the construction
- As well as the position in which the system is located in relation to surrounding landscape.

Table 3.3 below presents the criteria necessary, which was used to rank the various watercourses in terms of risk. It must be noted that the criteria provided in Table 4.3 is utilised as a general guideline to identify the at risk watercourses and is not indefinite in terms of risk status of watercourses. Table 3.4 presents the watercourses delineated within the 500m assessment radius and their respective risk status.

Table 3.3: The general guideline utilized to identify the risk status of watercourses

RISK RATING	CRITERIA/DESCRIPTION
High	The watercourse/wetland is situated directly within or in close proximity to, or within the same minor catchment area as, the proposed development footprint. Therefore, the aquatic habitat, biota present within, water quality of and/or the hydrological regime through the watercourse/wetland are highly likely to be impacted on by aspects of the proposed development.
Moderate	The watercourse/wetland is situated directly upstream, or within a medium distance (32m to 54m) downstream of the proposed development within the same minor catchment area. This may result in the aquatic habitat, biota present within, water quality of and/or the hydrological regime through the watercourse/wetland being indirectly impacted on by aspects pertaining to the proposed development (e.g. sedimentation, pollution and/or a change in the hydrological characteristics of the system).
Low	The watercourse/wetland is situated a significant distance (>54m) upstream or downstream of the proposed development and upgrade, or within a landscape that prevents any direct/indirect impacts that have been determined to originate from the activity from reaching it, and thus is not likely to be impacted on by the proposed development and upgrade.
No Impact	The watercourse/wetland is situated within a completed different minor catchment area to the proposed development and upgrade, and thus is highly unlikely to be affected by direct or indirect impacts that have been determined to originate from the proposed development and upgrade.

Table 3.4: The watercourses delineated within the 500m assessment radius and their respective risk status

Unit	System Type	At risk status	Impact Status	Reasoning
HGM 1	Depression/Pan Wetland	No	**No impact**	No surface impacts are associated with the undergound mining activities.
HGM 2	Depression/Pan Wetland	No	**No impact**	No surface impacts are associated with the undergound mining activities.
HGM 3	Depression/Pan Wetland	No	**No impact**	No surface impacts are associated with the undergound mining activities.
HGM 4	Depression/Pan Wetland	No	**No impact**	No surface impacts are associated with the undergound mining activities.

Following the above Risk screening and the results of the Risk Assessment Matrix (RAM) none of the wetlands of the study site were found to be at risk.

In this study, there are no surface impacts associated with underground mining. Thus the wetland HGM units will not suffer any impact as a consequence of the proposed activity.

Hence, no functional assessment is required for any of the HGMs.

4. Risk Assessment Matrix

Nr.	Phases	Activity	Aspect	Impact	Severity	Consequence	Likelihood	Significance	Risk Rating	Control Measures
1	Planning & Construction	Underground Mining	Irreplaceable loss of resources	The planning and construction phase of the relevant activities is not expected to result in irreplaceable loss of wetlands. The final significance rating has been determined to be “Low” given the duration of planning activities, the lower magnitude of impacts and the fact that roads already are in existence throughout the project area, which will be utilised during the planning and construction phase and the fact that mining has already been undertaken to some extent in this area and some services are already available. The final significance rating has been determined to be “Low” given the duration of operational activities, the lower magnitude of impacts and the fact that delineated wetland areas are expected to be undermined during this phase which is unlikely to result in degradation on the surface. Mitigation in the form of subsidence investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation.	1	1	12	36	Low	Mitigation in the form of subsidence investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation.
	Operational		Subsidence		1	1	12	36	Low	
2	Planning & Construction	Underground Mining	Irreplaceable loss of resources	The planning and construction phase of the relevant activities is not expected to result in irreplaceable loss of wetlands. The final	1	1	12	36	Low	Mitigation in the form of subsidence

	Operational		Subsidence	significance rating has been determined to be “Low” given the duration of planning activities, the lower magnitude of impacts and the fact that roads already are in existence throughout the project area, which will be utilised during the planning and construction phase and the fact that mining has already been undertaken to some extent in this area and some services are already available. The final significance rating has been determined to be “Low” given the duration of operational activities, the lower magnitude of impacts and the fact that delineated wetland areas are expected to be undermined during this phase which is unlikely to result in degradation on the surface. Mitigation in the form of subsidence investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation.	1	1	12	36	Low	investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation.
3	Planning & Construction	Underground Mining	Irreplaceable loss of resources	The planning and construction phase of the relevant activities is not expected to result in irreplaceable loss of wetlands. The final significance rating has been determined to be “Low” given the duration of planning activities, the lower magnitude of impacts and the fact that roads already are in existence throughout the project area, which will be utilised during the planning and construction phase and the fact that mining has already been undertaken to some extent in this area and some services are already available. The final significance rating has been determined to be “Low” given the duration of operational activities, the lower magnitude of impacts and the fact that delineated wetland areas are expected to be undermined during this phase which is unlikely to result in degradation on the surface. Mitigation in the form of subsidence investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation.	1	1	12	36	Low	Mitigation in the form of subsidence investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation.
	Operational		Subsidence		1	1	12	36	Low	

4	Planning & Construction	Underground Mining	Irreplaceable loss of resources	The planning and construction phase of the relevant activities is not expected to result in irreplaceable loss of wetlands. The final significance rating has been determined to be “Low” given the duration of planning activities, the lower magnitude of impacts and the fact that roads already are in existence throughout the project area, which will be utilised during the planning and construction phase and the fact that mining has already been undertaken to some extent in this area and some services are already available. The final significance rating has been determined to be “Low” given the duration of operational activities, the lower magnitude of impacts and the fact that delineated wetland areas are expected to be undermined during this phase which is unlikely to result in degradation on the surface. Mitigation in the form of subsidence investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation.	1	1	12	36	Low	Mitigation in the form of subsidence investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation.
	Operational		Subsidence		1	1	12	36	Low	

5. Mitigation and Recommendation Measures

The wetland units within the site or adjacent 500m buffer will not be at any risk of significance. Hence, the only mitigation measure recommended is mitigation in the form of subsidence investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation. Additionally, it is also recommended that the developer exercise Duty of Care at all times to ensure that no impacts accrue to any element of the environment.

6. Conclusion

This specialist wetland assessment was undertaken to identify the location and extent of wetlands within 500m of the study site; determine the functionality and health status of the wetlands and identify the impacts of the proposed underground mining activity on these surrounding wetlands.

Four (4) wetland units were identified following a desktop and field survey. These wetlands were of the depression/pan type.

Due to the underground mining being conducted at great depths of greater than 700m below the ground, it was determined that the proposed activity will have no impact on any of the wetlands located in the 500m buffer zone. Accordingly, it was not necessary to conduct a functional assessment of the wetlands.

Nevertheless, it is recommended, that a subsidence investigation be conducted and that the developer adheres to the duty of care required for all such activities.

7. References

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Appendix D: Impact Assessment Tables

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CONSTRUCTION PHASE Fot PHASE 2 OF SOFS PROJECT: UNDERGROUND MINING																				
Issues related to HYDROGEOLOGY																				
Baseline information is required for water quality monitoring purposes.	Underground workings Dewatering	2	2	2	2	12	-	L	Monitoring water quality in the monitoring network. Meter abstracted water user for quantity.	2	2	1	2	10	-	L	Regular water level readings must be taken (from probes and hand measurements) to monitor changes in the groundwater table. If possible, these boreholes should be placed throughout the mine to assess the regional groundwater table.	Quarterly	Environmental Coordinator	To form part of the existing monitoring program
																	Monitoring boreholes should be installed on the boundaries of the proposed new mining right extension area as well as around the perimeter of the entire proposed SOFS mining area. This is to ensure that mining activities are not impacting groundwater levels or groundwater quality in the area, which will negatively affect groundwater users who rely on this water source for domestic use and farming.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	It is recommended that all monitoring boreholes be monitored on a quarterly basis.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	Although there are no highly elevated constituents in the groundwater, with the exception of nitrate, it is recommended that the parameters used for analysis in this report is used for monitoring purposes.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	It is recommended that the data is stored in a dedicated database and that quarterly and annual reports are generated for mine management.	Quarterly	Environmental Coordinator	To be determined - depending on severity of incident
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to FAUNA AND FLORA																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental control officer/Ecologist/Proponent	Included in starting costs.
Issues related to AIR QUALITY																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to NOISE																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to TRAFFIC																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to VISUAL																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to Blast and Vibration																				
Ground Vibration	Blasting	4	1	2	3	21	-	L	Safety for underground structures should be monitored and responsible blasting should take place.	2	1	2	3	15	-	L	All animals and people should not be present within 500m from the blasting operations. This includes underground to surface.	During the starting phase	mine	Included in starting costs.
Issues related to SOCIAL																				
No significant additional social impacts would occur for Phase 2 .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in construction and operational costs.
Issues related to HERITAGE																			Environmental Control Officer	Included in construction costs.
Graves are located on the surface. Would not affect the surface graves.	Graves/ grave yards	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in starting costs.
Issues related to WETLANDS																				
Irreplaceable loss of resources	Underground Mining	2	2	2	2	12	N	L	Mitigation in the form of subsidence investigation and assurance of a suitable safety factor to avoid subsidence is recommended to avoid any potential degradation.	2	2	1	2	10	N	L	N/A	N/A	Environmental Control Officer	Included in construction costs.
Issues related to RADIATION																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in construction costs.
Issues related to Climate Change																				
No significant construction impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	Environmental Control Officer	Included in construction costs.

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
OPERATIONAL PHASE OF PHASE 2 OF SOFS PROJECT																				
Issues related to GEOLOGY																				
Removal of gold resources will permanently alter the geology of the area.	Mining	10	5	2	5	85	-	H	No mitigation measures are possible, as mining permanently destroys the geological strata. The mining operations will remain within the limits of the designated mining rights area.	10	5	2	5	85	-	H	The mine will make optimal use of the gold resources which forms part of the mining rights area.	N/A	N/A	N/A
The potential sterilisation of other resources due to the establishment of infrastructure on potential mineral resources.	Mining	8	5	2	4	60	-	M	The mine must undertake detailed geological investigations to determine the extent of the resources and ensure that no mining infrastructure is located on areas of potential mineral resources. The mine must ensure to optimally utilise all available gold resources. Should additional gold resources be identified outside the boundaries as stipulated within this report, the necessary applications must be made to the relevant authorities, who will include, but are not limited to the DMR (for mining), DEA (for listed activities); DWA (for water related issues), NDA (for potential impacts on land use and capability), SAHRA (for potential impact on unidentified graves or culturally important sites).	8	5	2	3	45	-	M	Phased mine plans must be developed within legal mining rights area. All mining activities will be undertaken in line with the Mining Works Programme and the EMP.	Ongoing	Project Manager	Included in Operational Costs
Issues related to TOPOGRAPHY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Baseline information is required for water quality monitoring purposes.	Underground workings Dewatering	2	2	2	2	12	-	L	Monitoring water quality in the monitoring network. Meter abstracted water user for quantity.	2	2	1	2	10	-	L	Regular water level readings must be taken (from probes and hand measurements) to monitor changes in the groundwater table. If possible, these boreholes should be placed throughout the mine to assess the regional groundwater table.	Quarterly	Environmental Coordinator	To form part of the existing monitoring program
																	Monitoring boreholes should be installed on the boundaries of the proposed new mining right extension area as well as around the perimeter of the entire proposed SOFS mining area. This is to ensure that mining activities are not impacting groundwater levels or groundwater quality in the area, which will negatively affect groundwater users who rely on this water source for domestic use and	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	It is recommended that all monitoring boreholes be monitored on a quarterly basis.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	Although there are no highly elevated constituents in the groundwater, with the exception of nitrate, it is recommended that the parameters used for analysis in this report is used for monitoring purposes.	Quarterly	Environmental Coordinator/	To form part of the existing monitoring program
																	It is recommended that the data is stored in a dedicated database and that quarterly and annual reports are generated for mine management.	Quarterly	Environmental Coordinator	To be determined - depending on severity of incident
Issues related to HYDROLOGY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to FAUNA AND FLORA																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to AIR QUALITY																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No significant additional social impacts would occur for Phase 2 .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
Graves are located on the surface. Would not affect the surface	Graves/ grave yards	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to CLIMATE CHANGE																				
No significant impacts are envisaged during the operational phase .	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A

POTENTIAL ENVIRONMENTAL IMPACT	ACTIVITY	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION							ACTION PLAN	FREQUENCY	RESPONSIBLE PERSON	ANNUAL MANAGEMENT COST
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP				
CLOSURE AND DECOMMISSIONING PHASE ACTIVITY 1: REMOVAL OF INFRASTRUCTURE																				
Issues related to GEOLOGY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TOPOGRAPHY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to GEOHYDROLOGY																				
Contaminated groundwater reaching surface, impact nearby groundwater and surface water	Flooding of underground workings and potential decant	10	5	2	2	34	-	M	Investigate and determine impact of decant after closure.	10	5	2	2	34	-	M	Investigate and determine impact of decant after closure. Monitoring of mine flooding for 5 years after decommissioning	Quarterly	Mine Environmental Manager	Included in closure costs.
Issues related to HYDROLOGY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOIL, LAND USE AND LAND CAPABILITY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to FAUNA AND FLORA																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to AIR QUALITY																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to NOISE																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to TRAFFIC																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to VISUAL																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to SOCIAL																				
No additional impacts from Phase 2 of the SOFS project. Same as Phase 1.	0	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to HERITAGE																				
No significant closure and decommissioning impacts are envisaged.	0	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to WETLANDS																				
No significant closure and decommissioning impacts are envisaged.	N/A	0	0	0	0	0	N	N	N/A	0	0	0	0	0	N	N	N/A	N/A	N/A	N/A
Issues related to CLIMATE CHANGE																				

Appendix E: Public Participation Process by GCS

Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

GCS Project Number: 23-1204
DMRE Ref: FS30/5/1/2/2/10005MR

Comments and Responses Report (CRR)

Version: Final

July 2024

This Comments and Responses Report (CRR) provides a summary of the comments, questions and issues raised by stakeholders since the announcement of the application and availability of the Part 2 Draft Amendment Report in June 2024. Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (Sibanye Stillwater Limited holds 100% in Sibanye Gold (Pty) Ltd and Sibanye Gold (Pty) Ltd holds 100% in Wits Gold) intents to submit a Part 2 Amendment Application for the current Environmental Authorisation (EA) / Environmental Management Programme (EMPr) of the Southern Orange Free State (SOFS) Mining Right to the Department of Mineral Resources and Energy (DMRE). The SOFS Mining Right is in Matjhabeng Local Municipality near Meloding and Virginia.

Table of Contents

List of Appendices

ISSUE OR CONCERN	CONTRIBUTOR	DATE OF CONTRIBUTION	MEANS OF CONTRIBUTION	RESPONSE
1. Comments received in preparation of the public review of the Part 2 Draft Amendment Report				
Indicated that the proposed project site is located within a residential area that is prone to earth tremors, asked how the houses will be safeguarded from cracks which might result from blasting activities.	Mr Lennox Rubula, Matjhabeng Local Municipality	13 June 2024	Matjhabeng Local Municipality and Sibanye Stillwater Environmental and Public Participation alignment meeting (Virtual meeting)	Mr Sylvester Nkwe, Sibanye Stillwater indicated that a vibration study was conducted and findings from the study indicate that there will be minimal impacts on residential areas. He added that findings from the study will be shared with stakeholders. Ms Gerda Botha, GCS added that the vibration study will be appended to the Draft Amendment Report which will be made available for public review and comment.
Asked who will be invited to attend the proposed public meeting on 10 July 2024	Councillor Khalipha, Mayor Matjhabeng Local Municipality	13 June 2024	Matjhabeng Local Municipality and Sibanye Stillwater Environmental and Public Participation alignment meeting (Virtual meeting)	Ms Sibongile Bambisa, GCS indicated that project information materials such as the Background Information Document, newspaper advertisements and site notices will provide information about the invitation to the public meeting on 10 July 2024. Through dissemination of such information, the meeting is open to the public, individuals who have an interest in the proposed project and those who might be affected by the proposed project.
Proposed that the municipal leadership council should be taken for a site visit prior to the scheduled public meeting. He added that Sibanye Stillwater should liaise with the office of the Speaker to ensure that the relevant ward councillors and key stakeholders from the municipality are present. He stated that the purpose of the site is to ensure that the relevant representatives from the Matjhabeng Local Municipality are afforded an opportunity to know where the site is located and get an understanding of the proposed project.	Councillor Khalipha, Mayor Matjhabeng Local Municipality	13 June 2024	Matjhabeng Local Municipality and Sibanye Stillwater Environmental and Public Participation alignment meeting (Virtual meeting)	Mr Lehlogonolo Mohosh, Sibanye Stillwater acknowledged Mayor Khalipha's proposal. He indicated that he would liaise with the office of the Speaker to facilitate the meeting with the Municipal leadership.
Stated that he welcomes the proposed date for the public meeting, the project team (Sibanye Stillwater and the	Councillor Khalipha, Mayor Matjhabeng Local Municipality	13 June 2024	Matjhabeng Local Municipality and	Mr Lehlogonolo Mohosh, Sibanye Stillwater and Ms Evelyn Mekgwe, Sibanye Stillwater

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consultants) should ensure that the meeting is held in the afternoon to ensure attendance of the community.			Sibanye Stillwater Environmental and Public Participation alignment meeting (Virtual meeting)	confirmed that the public meeting will be held in the afternoon.
2. Comments received during the public review of the Part 2 Draft Amendment Report 26 June to 25 July 2024				
On behalf of the Provincial Head of the Department of Water and Sanitation: Free State, I hereby would like to acknowledge receipt your mail and its contents with appreciation. The matter will be attended to.	Pule Joseph Lenong (PJL) Office of the Provincial Head Department of Water and Sanitation	25 June 2024	Email	The receipt of the email was acknowledged on 26 June 2024.
Can you please provide Rand Water with the shape files (kmz format), Locality Map and Application (if you are in the design phase), in order to determine if Rand Water will be affected.	Natalie Koneight EMS Secretary Rand Water EMS	25 June 2024	Email	EAP responded on 1 July 2024 as follows: I have attached the kmz. file for the proposed area to be included in the Mining Right Area. Please note that there will be no surface infrastructure located on the properties and the underground mining would take place around 1000m below the surface.
Please note that all development applications are processed via our online portal, the South African Heritage Resources Information System (SAHRIS) found at the following link: http://sahra.org.za/sahris/. We do not accept emailed, posted, hardcopy, faxed, website links or DropBox links as official submissions. Please create an application on SAHRIS for each EA application and upload all documents pertaining to the Environmental Authorisation Application Process. As per section 24(4)b(iii) of NEMA and section 38(8) of the National Heritage Resources Act, Act 25 of 1999 (NHRA), an assessment of heritage resources must form part of the process and the assessment must comply with section 38(3)	Nokusho Ngobeni Heritage Officer: Development Applications Unit	26 June 2024	Email	EAP responded on 26 June 2024 as follows: The application has been submitted onto the SAHRIS site. The case ID for the project is: 22935. Receipt of the email from the EAP was acknowledged on 27 June by Nokusho Ngobeni.

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of the NHRA. If a case already exists on SAHRIS regarding the development, please upload the documents to that case using the "Make an additional submission to an existing case" in the application selector wizard https://sahris.org.za/form/application-selector. Please ensure that all documents produced as part of the EA process are submitted as part of the application. **PLEASE NOTE** An application fee is now required for all section 38 applications. Please ensure that the SAHRIS application contains a proof of payment as per the notice at the following link: https://sahris.org.za/help. A payment of R 2 000.00 for each application is required. Please make separate payments with the specific reference numbers. Applications that do not include a proof of payment will be considered incomplete and will not be processed until proof of payment is provided. Please make use of the SAHRIS Case ID in the payment reference. i.e. 12345/38.8. Please upload the PoP using the "Make an additional submission to an existing case" in the application selector wizard https://sahris.org.za/form/application-selector. The case officer assigned to your case will approve the submission and begin to process the case.				
Is it possible to forward the kml files for the proposed Project?	D J Monatisa, Eskom	26 June 2024	Email	EAP responded on 27 June 2024: Please see attached the kmz file.Please note that there will be no surface infrastructure within the planned area, all mining operations will take place around 1000m below the surface.
Please find enclosed this Department's letter dated 26 June 2024 for your attention. APPLICATION FOR PART 2 AMENDMENT TO THE CURRENT ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE SOUTHERN ORANGE FREE STATE MINING RIGHT OF WITWATERSRAND CONSOLIDATED RESOURCES (PTY) LTD NEAR VIRGINIA	Hannes Maree Department of Community Safety, Roads and Transport Directorate Road Asset Management Systems	27 June 2024	Email	EAP responded on 27 June 2024: Thank you for your letter. Please find below in response to the concerns and uncertainties raised. The Project currently applying for is to amend the Existing Mining Right with the addition of new properties into the Right.

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1. Your email dated 25 June 2025 and background information document dated June 2024 for the above-mentioned project, refers. 2. The following provincial road is affected by the above-mentioned project (refer to the enclosed plan): Secondary road S239 (statutory road reserve width of 25 meters) 3. Although this Department supports the above-mentioned project in general, thoughtful consideration of this project and the subsequent formulation of suitable comments can only be submitted to you once the following matters of concern are adequately addressed: 3.1 Due to the vague information that is currently available, this Department will only be able to consider and approve any specific access/es to secondary road S239 on receipt of a completed application and drawing that shows the geometric layout and exact locality of the access/es. An application form for the above-mentioned purpose is attached hereto. The application for the access/es will thus be considered once the formal application for an access/es is submitted to this Department. 3.2 A Traffic Impact Study/Assessment, compiled by a professional traffic engineer who is registered with ECSA, is also required in terms of the TMH16 document (Transport Manual for Highways) if an access is required to secondary road S239 or any other provincial road. This document can be obtained from the website of SANRAL. 3.3 No structures must be erected within 95,0 metres measured from the centre line of secondary road S239 without the written approval issued by this Department for the relaxation of the building line).				The project area will only consist of underground workings that will extend from the already approved mine plan and area. The area applied for now will not have any surface infrastructure or surface disturbances. The mining will take place around 1000m below the surface which would not affect your infrastructure on the surface. Therefore, the concerns you have raised regarding the S239 road condition, traffic impact and the erection of any structures within the reserve area would not be affected by this project. Should in future the be any changes and surface infrastructure is planned your information and guidelines will be used to ensure compliance with the roads and transport regulations and legislation. Receipt of the EAP's email were acknowledged with the following response from Mr Maree: Noted. A letter of support will be forwarded to you shortly.

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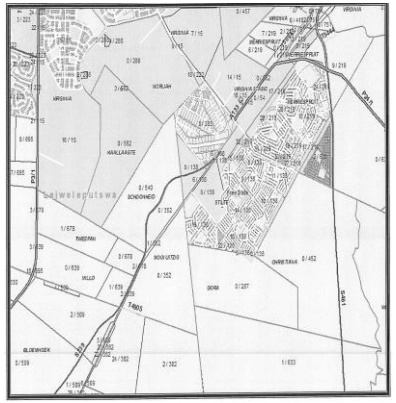
The building line is imposed in terms of the provisions of sections 9 and 9A of the Advertising on Roads and Ribbon Development Act, 1940 (Act no. 1 of 1940). 3.4 The condition of secondary road S239 is not in a good condition. Any increase in traffic for the purpose of this project will require more intense routine maintenance and certain sections of this road will have to be re-graveled. The applicant will therefore be required to carry out such maintenance at his/her expenditure. 3.5 Applications for way leave for any other operations, such as overhead structures, within the 95,0m measured from the centre line of the provincial road, must be submitted to this Department on the similar application form that is referred to in paragraph 3.2 of this letter. 4. Any enquiries pertaining to the contents of this letter can be addressed to this Department's Mr. J.P.W. Maree at Cell. No. 0820599725 or e-mail fsroadplanning@gmail.com. 				

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Eskom transmission powerlines are affected. Eskom transmission overhead powerline EVEREST PERSEUS 1 275kV powerline Eskom transmission overhead powerline GROOTVLEI THESEUS 1 400kV	Zandisile Mseleni Senior Advisor Investigations and Audits Servitude and Land Management Eskom Transmission	27 June 2024	Email and comment sheet	EAP responded on 27 June 2024: Thank you, we have received your comments and registration. Please note that this project only entails the addition of properties for underground mining into the existing approved mine area and will not have any surface infrastructure or disturbances. The mining will take place around 1000m below the surface; therefore the Eskom powerlines will not be affected.
DFFE Directorate: Biodiversity Conservation hereby acknowledge receipt of the invitation to review and comment on the project mentioned on the subject line. Kindly note that the project has been allocated to Mrs M Rabothata and Ms Lindiwe Dlamini (Copied on this email). In addition, kindly share the shapefiles of the development footprints/application site with the Case Officers. Please note: All Public Participation Process documents related to Biodiversity EIA review and any other Biodiversity EIA queries must be submitted to the Directorate: Biodiversity Conservation at Email: BCAdmin@dffe.gov.za for attention of Mr Seoka Lekota	Tebego Kgaphola Directorate: Biodiversity Mainstreaming and EIA Branch: Biodiversity and Conservation	27 June 2024	Email	The shapefiles were shared on 27 June 2024.
Please find enclosed this Department's letter dated 01 July 2024 for your attention. APPLICATION FOR PART 2 AMENDMENT TO THE CURRENT ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE SOUTHERN ORANGE FREE STATE MINING RIGHT OF WITWATERSRAND CONSOLIDATED RESOURCES (PTY) LTD NEAR VIRGINIA 1. Your letter with reference number CU507 dated 20 May 2024, with documentation in support of the	Hannes Maree Department of Community Safety, Roads and Transport Directorate Road Asset Management Systems	1 July 2024	Email and Letter	EAP responded on 1 July 2024: Thank you for your speedy response. It is much appreciated.

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above-mentioned application, as well as your email dated 27 June 2024, refers. 2. This Department supports the above-mentioned application as no provincial road is affected by the application.				
Please provide a kmz for the site in question.	Kubeshini Govender Wayleave Officer Open Serve	1 July 2024	Email	EAP responded on 1 July 2024: Please find attached the proposed new area to be included in the existing Mining Right Area. Please note that there will be no surface infrastructure located on these properties and the underground mining operations will take place around 1000m below the surface.
Please note that Rand Water services are Not Affected by this proposal. See attached “Not Affected” stamp on your letter.	Natalie Koneight EMS Secretary Rand Water EMS	2 July 2024	Email and document	Stamped document received with thanks
Please receive the attached wayleave as requested.	D J Monatisa, Eskom	3 July 2024	Email	EAP responded on 4 July 2024: Thank you for the maps and the Wayleave. This is very helpful. The applicant will be made aware of the conditions from Eskom on the powerlines and need to adhere to them. Should there be any surface infrastructure in future this will be helpful for planning. Currently, there are no surface infrastructure plans for the project.
As per our telephonic discussion, may you kindly extend the invitation of the public participation for the Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Rights of Witwatersrand Consolidated Resources (Pty) Ltd ("wits Gold") near Virginia DMRE reference Number: FS30/5/1/2/2/10005MR June 2024 to our Lejweleputswa District Municipality Public Participation Officers.	Ms Nomthandazo Mashele	04 July 2024	Email Correspondence	GCS acknowledged Ms Mashele’s email. Information on how to access the Draft Amendment Report and details of the public meeting were shared.
As telephonically discussed, this morning, we would like to confirm that Executive Mayor, Speaker and Chief Whip will not	Mr Mlungisi Martins	05 July 2024	Email Correspondence	Sibanye Stillwater (Mr Mohosh) responded to Mr Martins on 05 July 2024 as follows:

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be available next week due to other government engagements. We therefore agreed that the visit to Meloding be on the 16 July 2024 and will be followed by a community meeting at a venue that will be arranged by the municipality. We apologize profusely for any inconvenience that might be caused by these changes.	Matjhabeng Local Municipality			Your mail is well received. Kindly note that I engaged our management team and concerns were raised on the suggested postponement. Can we not have the community meeting on the 10th of July 2024 and the Meeting with the Municipality on the 16th of July 2024? As this process can still be done separately. We will do the walk-about on the 16 July 2024 with the Municipality leadership. The major reason for the request is since advertisements have been published and notifications were sent out, as well as the site notices all stating that the community meeting will take place on the 10th of July 2024. Changing that meeting will result in new advertisements that need to be published and new notifications sent out and notes need to go up at the site notices as well. The change in the meeting with the Municipality will affect our deadline as it is still within the PPP period, but changing the community meeting date will not only have huge cost implications but also a risk of a flawed PPP should anyone raise a complaint to the DMRE that they were not aware of the change in date of the meeting. Your favourable consideration will be greatly appreciated.
The leadership of the Municipality is not supporting your community consultative meeting on the 10th of July 2024 without their presence. That will confuse the community and may not be corrected at the later stage.	Mr Mlungisi Martins Matjhabeng Local Municipality	08 July 2024	Email Correspondence	The email was acknowledged, the public meeting was postponed to the 16th of July 2024. All stakeholders were informed about the postponement of the meeting.

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You are further persuaded to cancel the planned meeting and do it on the 16th of July 2024 as agreed.				
Please send me a KMZ file of the proposed development. Please find attached Eskom requirements for work at or near Eskom infrastructure and servitudes.	John Geeringh, Eskom Senior Consultant Environmental Management Grid Planning: Land and Rights	8 July 2024	Email and document	The kmz file was sent to Mr Geeringh on 8 July 2024. The email was acknowledged by him.
I hope this email finds you well. Please confirm if whether you have previously or currently had an application with the Department of agriculture with regards to the land you intend to mine at. If there is none, please share the locality map and project background for us to check if the farms you intend to mine at are still applicable to the provisions of Subdivision of Agricultural Land Act, 70 of 1970 or not? If it is still applicable a rezoning application needs to be lodge for the department to assess if they can grant a permission to use of the land on the stated farms.	Bridget Tshikalange DALRRD	9 July 2024	Email	EAP responded on 10 July 2024: No application for rezoning, division or change in land use is required for this project. There is no surface infrastructure planned for the project, it will only be underground mining taking place. The underground mining will take place over 1000m below the surface and no impacts are anticipated on surface land users including agricultural activities.
May you kindly send me a hard copy document for this project as follows. Cnr of Charlotte Maxeke and East Burger 2nd Floor, Bloem Plaza Building Bloemfontein The Department will comment on matters relating to water and wastewater management. Interested in more information with regards to ground and surface water protection (pollution prevention measures) through all stages of the project.	Boitumelo Melato Department of Water and Sanitation	9 July 2024	Email and comment sheet	A direct link to the document was sent and Ms Melato was contacted telephonically by the EAP.
Registration as an I&AP and requested to be involved in participation process and MS Teams meeting.	Mr Daniel Molefi	9 July 2024	Comment sheet	His request to become part of the MS Teams meeting was acknowledge and he was requested to attend on 16 July 2024.
Requested to be resent a link to access the Draft Amendment Report.	Mr Jack Armour Commercial Manager Free State Agriculture	10 July 2024	Email Correspondence	GCS resent a link to Mr Armour on 10 July 2024.
I am Tshepo Motsetse, chairperson of Re-Mmoho United Transformation and Development Civic Organisation, based	Mr Tshepo Motsetse Re-Mmoho United Transformation and	15 July 2024	Email Correspondence	GCS acknowledged Mr Motsetse's email. Mr Motsetse was informed that he has been registered as an Interested and Affected Party

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in Meloding, hereby registering to participate as an Interested and Affected Party for the SOFS project.	Development Civic Organisation			for the SOFS project. Both the English and Sesotho versions of the Background Information Document were sent to Mr Motsetse.
Asked how the community will benefit from the proposed project	Mr Tiisteso Lesiba Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Ms Anelle Lötter said that it's important to note that establishing and operating a mine takes time due to the necessary environmental assessments, community consultations, and compliance with legal frameworks required prior to proceeding with operating a mine. As such, potential benefits associated with the proposed project might take time to materialise.
He said that the community of Meloding is enthusiastic about the mining project because it promises to eliminate poverty in their community.	Mr Letebele Harikwana Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Ms Anelle Lötter acknowledged the comment, she added that community members need to bear in mind that investments related to mining developments require careful consideration and planning, often taking a significant amount of time to develop and implement effectively.
Indicated that he fully supports the proposed project. He urged community members to embrace it as well. The proposed project might create socio-economic benefits such as skills development and creating opportunities for learnerships, internships and jobs which are much needed in Meloding.	Mr Maloisane Ndashe Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Ms Anelle Lötter said that it is noble of the community to welcome the proposed project, however it should be noted that the proposed project will not materialise anytime soon. Sibanye Stillwater is currently conducting an environmental authorisation process to ensure that all the legal requirements are met.
He expressed his support for the project and hopes it will be successfully implemented, with the condition that its benefits primarily reach community members in ward 4. Community members in ward 4 are the ones who bear the brunt of the negative impacts associated with mining activities therefore they should benefit significantly from the mine.	Mr Joseph Pitso Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Mr Moletsa Moletsa opposed the notion that only a few community members should benefit from the proposed project. He added that that the proposed project presents a substantial opportunity for all community members in Virginia to benefit.
He suggested that a community committee forum should be established to lead community initiatives, skills development programs, and facilitate communication with Sibanye Stillwater.	Mr Joseph Pitso Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	The comment was acknowledged.
He indicated that people who are differently abled are often ostracised from the community. He recommended that people who are differently abled should also be considered for skills development and employment opportunities.	Mr Thabo Lechina Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	The comment was acknowledged.

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Asked if Sibanye Stillwater has management measures to prevent their houses from developing cracks due to blasting activities.	Mr Bongani Fencane Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Ms Rona Schroder indicated that prior to commencing with mining operations, the mine will conduct thorough surveys to assess the current condition of nearby houses. The survey will be conducted by an expert who will conduct a baseline assessment by assessing existing cracks and structural integrity, during this assessment pictures of the current conditions of the houses will be taken and recorded. A comparative analysis will be conducted during the operational phase of the mine, during this assessment, pictures of the nearby houses will be taken to compare with the baseline assessment.
Indicated that he reviewed the Draft Amendment Report. He stated that in the report, it was mentioned that there is solar power plant to be developed in Meloding, he asked when the development of the proposed solar plant will commence.	Mr Thapelo Sthoba Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Not Applicable to this project.
Stated that Sibanye Stillwater has been mining in Virginia for a long time, he requested that there should be equal employment opportunities for community members in Meloding.	Mr Thapelo Sthoba Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	The comment was acknowledged. Ms Anelle Lötter emphasised that investment takes long for it to materialise. She added that community members should bear in mind that it takes time to get all the necessary environmental approvals, the administrative and planning aspects of implementing a mine efficiently.
Asked if Sibanye Stillwater has acquired all assets from Witwatersrand Gold Mine	Mr Thapelo Sthoba Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	*Post meeting response:* Sibanye Stillwater acquired the Southern Orange Free State assets through their acquisition of Wits Gold in July 2014. These assets include the mining and prospecting rights formerly held by Wits Gold.
Recommended that Sibanye Stillwater should leave a positive legacy post closure of mining activities. This can be an initiative that sustains the economy of Virginia.	Mr Thapelo Sthoba Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Comment was acknowledged.
Requested that community members should be prioritised for employment and skills development opportunities. She indicated that she opposes the idea of recruiting non-locals to work at the mine.	Ms Vivian Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Comment was acknowledged.

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Stated that he welcomes the project and that he acknowledges that the proposed project will not be implemented any time soon, however he requested that skills development, capacity building and employment opportunities are prioritised for Meloding residents.	Ms Vivian Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Comment was acknowledged
Requested that Sibanye Stillwater should consider the following: • Develop and capacitate local small businesses and strive to enhance fair competition. • Small businesses often bring innovative solutions and local knowledge to projects. If Sibanye Stillwater disregards local small businesses, opportunities for innovative ideas and approaches may be missed. Capacity development for local small businesses will ensure that they are also on par with the big and established companies.	Mr Kgaugelo Pitso Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Comment was acknowledged
Suggested that the relevant personnel from Matjhabeng Local Municipality should be leading the establishment of a community committee forum. This will ensure fair and inclusive participation of all relevant stakeholders.	Mr Kgaugelo Pitso Meloding resident	15 July 2024	Public Meeting, Meloding Community Centre	Comment was acknowledged
Great Project for economic growth. Compliance with MPRDA 2002 objectives: j.e (d), (e), (f) and (i), Implementation guidelines for mines Charter 2018, section 4 and 5 and 6 Observation of Criminal Procedures Act Chapter 3 Section 36 B (6) (b) and (d) (i) and Recognition of NEMA 1998 Chapter 1 Section 2 (1) (a) (2); (3); (4); (a) (v); (4) (d);(4) (c); (4) (0) and (4) (q). I would like more information on the Power Generation Plant and SLPs by Sibanye-Stillwater.	Mr Tshepo Motsetse Re-Mmoho United Transformation and Development Civic Organisation	22 July 2024		
The document is well received. Does the 30-day period commenting period start today since it is the date I received the document.	Boitumelo Melato, DWS	22 July 2024	Email	As DWS is a commenting authority, you can still provide your comments to us and DMRE after the submission of the final documents to the DMRE as your comments will be included in their decision-making process. Our public review period end on 25 July 2024, and the final documents will be submitted to the DMRE before 31 July 2024. Your comments do form part of the

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				DMRE process, so would be recorded after the submission of the final documents to the DMRE. In response Ms Melato responded as follows on 25 July 2024: Your email below is received with thanks and the contents thereof are noted. The comments will be sent after receipt of the Final report.
COMMENTS ON THE DRAFT AMENDMENT REPORT FOR THE ENVIRONMENTAL AUTHORISATION FOR THE SOUTHERN ORANGE FREE STATE (SOFS) PROJECT, FREE STATE PROVINCE. The Directorate: Biodiversity Conservation reviewed and evaluated the aforementioned report. Based on the information provided in the report, the Directorate Biodiversity Conservation does not have any objections to the proposed project. However, to minimize biodiversity impacts, mitigation measures outlined in the EMPr must be adhered to and implemented. All Public Participation Process documents related to Biodiversity EIA review and any other Biodiversity EIA queries must be submitted to the Directorate: Biodiversity Conservation at Email: BCAdmin@environment.gov.za for attention of Mr Seoka Lekota.	Ms Mmatlala Rabothata Department of Forestry Fisheries and the Environment (DFFE) – Directorate Biodiversity Conservation	23 July 2024	Email and letter	EAP responded on 24 July 2024: Thank you for your comments. We have noted that there are no objections from the Biodiversity Conservation Directorate. We will send any PPP documents and queries to the nominated contact.

3. Overview of the Public Participation Process

This section of the report documents the public participation activities which was followed for the application of a Part 2 Amendment for the current Environmental Authorisation (EA) / Environmental Management Programme (EMPr) of the Southern Orange Free State (SOFS) Mining Right to the Department of Mineral Resources and Energy (DMRE).

4. Purpose of public participation

The most important objective of public participation is to provide sufficient and accessible information to Interested and Affected Parties (I&APs) in an objective manner and to provide a platform for constructive participation in the regulatory process, thereby assisting I&APs to:

- Gain an understanding of the proposed activities applied for, the various legislative components, specials studies conducted and the potential impacts (positive and negative);
- Raise issues of concern and suggestions for enhanced benefits;
- Comment on reasonable alternatives and the proposals;
- Verify that their issues have been recorded in the Comments and Responses Report ("CRR") and considered in investigations; and
- Contribute relevant local information and traditional knowledge to the process.

5. Public Participation Process

A short summary of the various public participation activities undertaken in support of the application is detailed below:

4.1 Identification of stakeholders

A stakeholder database or list of I&APs was compiled and is updated as the process unfolds and as more I&APs register. The database was compiled: a) using lists of contact details of previous application processes in the area; b) using information provided by stakeholders in response to advertisements published, site notices placed and/or emails sent; and c) from information provided by I&APs in response to an invitation to provide contact details of other stakeholders which may have been interested or affected. A list of the stakeholder database is appended (Appendix A).

4.2 Announcement of the regulatory process and proposed applications

The regulatory process and Sibanye-Stillwater's intent to apply for a Part 2 Amendment was announced to I&APs by means of the following:

- Advertisements (Appendix B) in English and SeSotho were published as follows:

Name of Newspaper		Publication date
1.	Vista Newspaper	Friday, 21 June 2024
2.	Free State Sun	Friday, 21 June 2024
3.	Masilonyane News	Friday, 21 June 2024

- Various notifications (Appendix C) were compiled and distributed as follows:
    - To all I&APs on the stakeholder database via email notifications on Monday, 24 June 2024 and reminders to be sent on 5 July and 19 July 2024.
    - Posters and pamphlets were printed and distributed.
- Placement of the draft Part 2 Amendment Report on the GCS website and the data-free Ulwazi website. The website addresses were published in the advertisements, site notices, notifications, presentations and all other communication (e.g. email notifications) to I&APs.
- Placement of site notices around the proposed development area (Appendix D records the placement of site notices) on 24 June 2024.
- A Registration and Comment Form was distributed with every notification, inviting stakeholders to register as I&APs and to provide their comments.
- Meetings were held to announce the regulatory process, Sibanye-Stillwater's intent and also to share a summary of the contents of the draft report with stakeholders to assist them to comment on the reports. All comments raised during the meetings were captured in the Comments and Responses Report. Meetings were initially arranged to take place on 10 July 2024, however due to a request by the leadership of the Matjhabeng Local Municipality the meetings were postponed to 16 July 2024.

  The following meetings were held:

	Date	Venue and purpose of the meeting	Notes
1.	Tuesday, 16 July 2024 at 10:00	Virtual meeting on the MS Teams platform. The purpose of the meeting is to review a summary of the contents of the Draft Amendment Report.	The link to the meeting was sent to all I&APs, however after 30 minutes from the starting time of the meeting, the meeting was not attended by I&APs. Several registrations to attend the meeting was received.
2.	Tuesday, 16 July 2024 at 12:00	Site visit and briefing meeting for Matjhabeng Local Municipality officials and leadership.	The attendance register is included as Appendix E.
3.	Tuesday, 16 July 2024 at 15:00	A public meeting at Meloding Multi-Purpose Hall, Virginia to review a summary of the contents of the Draft Amendment Report.	The attendance registers are included as Appendix E.
*	*Please note – meetings were originally arranged to take place on Wednesday, 10 July 2024. Upon correspondence from the Matjhabeng LM (see CRR) the meetings were postponed to Tuesday, 16 July 2024. Posters were placed at the venue to announce the postponement and email notices were sent twice to notify stakeholders of the postponement.*		

4.3 Comments and Responses Report

All comments received during the process are captured in a Comments and Responses Report (CRR) (Section1 of this Report). The CRR will be appended to the Final Part 2 Amendment Report as a full record of issues raised, including responses on how the issues were considered during the process and in the Final Part 2 Amendment Report.

4.4 Review of the Draft Part 2 Amendment Report

The Draft Part 2 Amendment Report is available for comment and review for a period of 30 days from 25 June to 25 July 2024. The availability of the Report for review and comment was announced to stakeholders through the following means:

- Email notifications (email message and letters) were sent to all I&APs on 24 June 2024 (proof of distribution to be included in the final report) informing them of the availability of the Draft Report for their review and to invite them to opportunities to meet and discuss the report. A comment sheet was distributed with the notification for stakeholders to complete and submit their comments in writing.
- Telephonic notification to key I&APs.
- Advertisements were published (Appendix B) on 21 June 2024 in the Vista, Free State Sun and Masilonyane News newspapers to inform readers about the regulatory process followed, the opportunity for stakeholder to participate in the process by reviewing the Draft Report and to provide their comments.
- The Draft Report was made available on the GCS and data free Ulwazi web sites.
- Copies of the Draft Report was distributed electronically and in hard copy to the Competent and Commenting authorities (Proof of delivery notices will be included in the final report).
- A hard copy of the Draft Report was available for review at the Meloding and Virginia Public Libraries.
- See section 4.2 for a list of meetings which will be held during the review period to discuss the contents of the Draft Report.

Notices in the Meloding shops and at libraries enabled the community to participate.

A meeting was held on 16 July with the Matjhabeng Municipal leadership to provide information on the application and to discuss the draft Part 2 Amendment Report.

A meeting was held on 16 July 2024 at the Meloding Multi-Purpose Hall to discuss the application and the Draft Part 2 Amendment Report.

4.5 Review of the Final Part 2 Amendment Report

The Final Part 2 Amendment Report will be prepared after the comment period of the Draft Report has expired. The availability of the Final Report and where copies of the Final Report can be obtained for review and comment will be communicated in a notification letter to registered I&APs via email.

The Final Part 2 Amendment Report and its accompanying reports will be published on the GCS and Ulwazi websites.

APPENDIX A: DATABASE

APPENDIX B: ADVERTISEMENTS

Advertisements was published on 21 June 2024 in the Vista, Free State Sun and Masilonyane News newspapers.

APPENDIX C: NOTIFICATIONS

Notifications were sent on the following dates:

25 June 2024	Announcing the project and the availability of the Draft Part 2 Amendment Report
5 July 2024	Reminder were sent of the proposed meetings and the availability of the Report
9 and 10 July 2024	Notifications of the postponement of the meetings of 10 July 2024

APPENDIX D: SITE NOTICES

Site notices were placed on 24 June 2024.

APPENDIX E: ATTENDANCE REGISTERS AND PRESENTATIONS DELIVERED

The following attendance registers are included:

a) Site visit and briefing meeting for Matjhabeng Local Municipality officials and leadership held on 16 July 2024

b) Public meeting at the Meloding Multi-Purpose Hall held on 16 July 2024

The presentation delivered at the public meeting is included.

APPENDIX F: SUBMISSIONS FROM STAKEHOLDERS

23 -1204 SOFS STAKEHOLDER DATABASE		
Landowner	**Contact person**	**Organisation/ Property details**
Directly Affected Landowners		
		Farm Stilte No. 138 Portion 1
Matjhabeng Local Municipality		Farm Stilte No. 138 Portion 8
		Farm Stilte No. 138 Portion 9
Matjhabeng Local Municipality		Farm Stilte No. 138 Portion 10
Matjhabeng Local Municipality		Farm Stilte No. 138 Portion 11
Virginia Plaaslike Oorgangsraad		Farm Stilte No. 138 Portion 14
Virginia Plaaslike Oorgangsraad		Farm Stilte No. 138 Portion 15
Virginia Plaaslike Oorgangsraad		Farm Stilte No. 138 Portion 18
Matjhabeng Local Municipality		Farm Stilte No. 138 Portion 19
		Farm Stilte No. 138 Portion 22
Matjhabeng Local Municipality		Farm Stilte No. 138 Portion 25
Matjhabeng Local Municipality		Farm Stilte No. 138 Portion 28
No windeed information available		Farm Stilte No. 138 Portion 29
Matjhabeng Local Municipality		Farm Dora No. 287 Portion of Remainder
Matjhabeng Local Municipality		Farm Mooiuitzig No. 352 Portion of Remainder
Transnet Ltd		Farm Mooiuitzig No. 352 Portion 1
Matjhabeng Local Municipality		Farm Schoonheid No. 540 Portion of Remainder
Name	**Surname**	**Organisation/ Property details**
Muhammad	Essop	Department of Forestry, Fisheries and Environment (DFFE): Strategic Infrastructure Developments
Seoka	Lekota	DFFE: Biodiversity EIA review
Stanely	Tshikonelo	DFFE - The Directorate: Biodiversity Conservation
Rofhiwa	Magodi	DFFE : Directorate: Biodiversity Conservation: Protected Areas
Mpho Rose	Luula	DFFE
Samkkelisiwe	Dlamini	DFFE
Masina	Morudu	DFFE
Wilma	Lutsch	DFFE - Director Biodiversity
Peladi	Masipa	Department of Energy: Renewables Coordinator
Mmboniseni	Murathi	NERSA (National Energy Regulator South Africa): Legal Advisor
Paul	Mahlangu	NERSA (National Energy Regulator South Africa)
Nicole	Abrahams	National Roads Authority (NRA): Environmental Coordinator
Sandile	Fuku	Department of Economic , Small Business Development, Tourism and Environmental Affairs (DESTEA), Head of Communications Environmental Impact Assessment
Grace	Mkhosana	Department of Economic , Small Business Development, Tourism and Environmental Affairs (DESTEA), Head of Communications Environmental Impact Assessment
Lorato	Moalosi	Department of Economic , Small Business Development, Tourism and Environmental Affairs (DESTEA), Head of Communications Environmental Impact Assessment
Mr Mojalefa	Mphapang	Department of Economic , Small Business Development, Tourism and Environmental Affairs (DESTEA), Head of Communications Environmental Impact Assessment
Tseliso	Ntili	Free State Department of Water and Sanitation (DWS):Provincial Head
Pule	Lenong	Free State Department of Water and Sanitation (DWS): Snr Secretary to the Provincial Head
Maureen	Letloenyane	Free State Department of Water and Sanitation (DWS)
Zodwa	Khumalo	Free State Department of Water and Sanitation (DWS)
Kereemang	Maseloane	Free State Department of Water and Sanitation (DWS)
Nkhumeleni	Musekene	Free State Department of Water and Sanitation (DWS)
George	Nel	Free State Department of Water and Sanitation (DWS)
Philmon	Khwinana	DWS CMA Forums
Dovhani	Siganunu	Free State Department of Water and Sanitation (DWS)
L	Mahlae	Free Sate Department of Water and Sanitation (DWS)
Lydia	Bosoga	Department of Agriculture, Land Reform and Rural Development:, Head of the Office : Directorate of Land Use and Soil Management
Petunia	Mthimkulu	Department of Agriculture, Forestry and Fisheries, Free State Province: Directorate of Land Use and Soil Management, Head of the Office
Serah Muobeleni		DALRRD
Mpume Ntlokwana		DALRRD
Vuyiswa Qobo		DALRRD
Jabulile Mokoena		DALRRD
Grace	Mkhosana	DESTEA
Thabitha	Mokone	Free State Province Department of Agriculture & Rural Development, the Senior Manager: Agricultural Economics, Marketing and Planning
Hannes	Maree	Department of Community, Safety, Roads and Transport, Free State Province: The Head Engineer, Roads: Directorate (Land Transport Planning)
Werner	van Wyk	Department of Community, Safety, Roads and Transport, Free State Province: The Head Engineer, Roads: Directorate (Land Transport Planning)
Kagisho	Mokae	Department of Energy, care of the Regional Petroleum Controller at the Free State Department of Energy
		Eskom Soc Limited: Land Development
Ntando	Mbatha	Free State Provincial Heritage Resources Authority: The Heritage Coordinator
Natasha	Higgitt	South African Heritage Resources Agency (SAHRA)
Local Authorities		
Lejweleputswa District Municipality		
Veronica	Ntankumbana	Executive Mayor - Councillor
Motshewa	Sefotha	PA to the Executive Mayor
Khaya	Mqeke	Acting Chief of Staff
Mathabo	Leeto	Speaker
Lerato	Chobane	PA to the Speaker
Cllr	Meli	Chief Whip
Yolisa	Kupiso	Municipal Manager (Acting)
Motlatsi	Makhetha	Municipal Manager
Matjhabeng Local Municipality		
Thanduxolo	Khalipa	Executive Mayor
Betty	Notsi	PA to the Executive Mayor
Zingisa	Tindleni	Municipal Manager
Charles Bheke	Stofile	Speaker
Msapitso	Sello Mohapi	PA to the Speaker
Kgojane	Matutle	Communications Officer
Morakane	Mothekhe	Local Economic Development and Planning
Maramane Lillian	Setabela	Chief Whip

Joseph	Liphoko	MMC
Libraries		
		Meloding Public Library
		Virginia Library
Farmer Associations		
Boy Saaiman		Agri Free State
Jack Armor		Vrystaat Landbou
		Agri-SA: Policy Head Natural Resources
Interest Groups		
Natalie	Koneight	Rand Water: EMS Secretary
John	Geeringh	ESKOM
Rene	De Bruin	Free State Eskom
Eskom wayleaves	Eskom wayleaves	Eskom Soc Limited: Land Development
Mamokete Mafumo		ESKOM
KC (Khayelihle)	Zulu	ESKOM
Lungile Motsisi		ESKOM
Noxolo	Ningisa	Sentech
		Birdlife South Africa
Samantha	Ralston	Birdlife SA
Dr Hanneline	Smit-Robinson	Birdlife South Africa: Head of conservation
		Birdlife South Africa: Policy and Advocacy Manager
Gareth	Tate	EWT
		Vaal Central Water
Mathobi	Martins	TelkomSA - Wayleave Management Section
Chris	Schutte	TelkomSA - Wayleave Management Section
Ockert	Strydom	South African Large Telescope Mechanical Engineer
John	Wesson	WESSA: Northern Region
Ezekiel	Monyamane	Transnet Freight Rail
Cobus	Cloete	Transnet Freight Rail
Francis	Rahlapane	Transnet Freight Rail
Sam	Fiff	Transnet Freight Rail (Jhb)
Lourens	Leeuwner	EWT
Ronelle	Visagie	EWT
Rynette	Coetzee	EWT
Ian	Little	EWT: Habitat
Bradley	Gibbons	EWT: African Crane Conservation Programme
Kish	Chetty	EWT
Hugo	Bezuidenhout	SANPARKS
Kristal	Maze	SANPARKS: General Manager: Park Planning and Development
Zoleka	Vaveki	SANPARKS
Zaiton	Rabaney	Botanical Society of South Africa (BSSA)
Kotie	Retief	Botanical Society of South Africa (BSSA)
Monyamane	Ezekiel	Transnet: Environmental and Sustainable Management
Nel	Felix	Transnet: Integrated Management Systems
Theron	Eric	Transnet: Business Continuity Management

Die Welkom Aquatics-swemklub se lede het die swemseisoen met hul jaarlikse prysuitdeling afgesluit. Die swemmers het goed presteer en verskeie rekordtye behaal. Afrigter Christo Jansen (heel agter) lei die swemmers saam met hulpafrigters Jayden Nel (voor, links) en Aydan de Beer (regs). Photo: Verskaf

Die Nobilis-vaardigheidskool het goed presteer in die LSOB Fast Five-toernooi. Die span het vyf wedstryde gespeel en al vyf gewen. In die Vrystaat-liga het die span ook al sy wedstryde gewen, en op 4 Junie het die span vir die LSOB-Vrystaatbeker gespeel en as die oorwinnaar uit die stryd getree. Nobilis gaan op 20 Julie aan die nasionale skolekampioenskap in Randburg deelneem. Van links is, voor: Lesedi Ledimo, Thandokazi Jokani, Puseletso Mofokenge en Tseleng Barnard; agter: Freddie Heyns, Olivia Juries, Bontle Chaotsane, Mpho Malatji, Tia-mari Mey, Mekyla Keys, Gilda Van Gent, Kedibone Tau en Yolanda van Rensburg (afrigter). Foto: Verskaf

Gogos get going

The Real Hearts Gogos Football Club (FC) played against the Bronville Gogos FC in celebration of Youth Day on 16 June. This was done to motivate young people to participate in sports. The elderly woman decided to lead by example and show that sports can open doors to the future and keep the youth off the streets and away from crime and substance abuse. The Real Hearts Gogos won with 1 - 0 against Bronville. Photo: Supplied

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DOUGLAS DALE MAAS R24.99 2LT
STORK MARGARINE R44.99 1KG
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SAVOURY MINCE R99.99 8X400G
GOLDEN VALLEY MIX EGGS R139.99 5 DOZ
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Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

• GCS Ref. No: 23-1204 • DMRE Ref: FS30/5/1/2/2/10005MR

Sibanye Gold Limited (trading as Sibanye-Stillwater) intends to submit a Part 2 Amendment Application for the current Environmental Authorisation (EA) / Environmental Management Programme (EMPr) of the Southern Orange Free State (SOFS) Mining Right to the Department of Mineral Resources and Energy (DMRE). The SOFS Mining Right is in Matjhabeng Local Municipality near Meloding and Virginia.

The application is required in support of the expansion of the mining right area and will ensure that future activities in the area are considered, including rehabilitation. The amendment is proposed to be submitted in compliance to the National Environmental Management Act Amendments to the Environmental Impact Assessment Regulations (Government Notice No. 326 of April 2017) (EIA Regulations), Part 2, as per Regulation 32.

The SOFS Part 2 amendment is undertaken to include the following properties in the existing Mining Right:

- Remainder of Portion 1, 8, 9, 10, 14, 15, 18, 19, 22, 25, 28 and 29 of the Farm Stilte No. 138;
- Remainder of the Farm Dora No. 287;
- Portion of Remainder, Portion 1 of the Farm Mooiuitzig No. 352;
- Portion of Remainder of the Farm No. Schoonheid No. 540; and
- Portion of Remainder of the Farm Kaallaagte No. 562

GCS Environment South Africa (Pty) Ltd (GCS) has been appointed as the independent Environmental Assessment Practitioner by Sibanye Stillwater to compile and submit the appropriate documentation required for the Section 31 Application for Amendment in accordance with the National Environmental Management Act (Act No. 107 of 1998): Environmental Impact Assessment Regulations, as amended.

YOUR PARTICIPATION IS IMPORTANT

Interested and Affected Parties (I&APs) are invited to participate by providing comments and raising issues of concern regarding the proposed amendment. A Part 2 Draft Amendment Report and the relevant specialist studies will be available from **26 June 2024 to 25 July 2024** for review and comment.

The Part 2 Draft Amendment Report can be accessed from 26 June 2024 as follows:

Hard copies:	Meloding Public Library, Meloding Street, Virginia, Tel: (057) 215 1091	Virginia Public Library, Virginia Garden Circle, Tel: (057) 212 0468
Electronic copies:	GCS website: **http://www.gcs-sa.biz/documents/**	Sibanye's data free portal: **https://ulwazi.datafree.co/#/pub/login**

Please send your written comments to GCS by 25 July 2024 or attend any of the events during which the content of the report will be discussed.

Session 1	Wednesday, 10 July 2024 at 10:00 - 12:00	Virtual meeting (MS Teams) – register by sending an email before 10 July 2024 to GCS
Session 2	Wednesday, 10 July 2024 at 16:00 - 18:00	Meloding Community Hall, Virginia

To register as an I&AP and to receive more information please contact:
GCS (Pty) Ltd: Anelle Lötter / Sibongile Bambisa, **Tel:** 011 803 5726,
Email: anellel@gcs-sa.biz / sibongileb@gcs-sa.biz
Postal Address: PO Box 2597, Rivonia, Johannesburg, 2128

Bambi Sandla Sam, an NPO from Winnie Mandela Town, recently awarded performing learners certificates from both Matshidiso Intermediate and Akademia High in a manner to motivate them go extra mile in their academic studies.

Thuto ke Bokamoso Quarterly TOP 10 Achievers is supported by ***Your Wealth Construction Pty Ltd***.

The day was also graced by Miss International South Africa 2024 Free State Finalist, Kamohelo Ntsoabole.

Kopo ya Tokiso ya Karolo ya 2 ya Lenaneo la Botsamaisi ba Tikoloho (EMPr) la Tokelo ya ho Rafa ya Southern Orange Free State (SOFS) ya Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") haufi le Virginia

• Nmr. ya GCS. ya Bopaki: 23-1204 • Bopaki ba DMRE: FS30/5/1/2/2/10005MR

Sibanye Gold Limited (e hwebang e le Sibanye-Stillwater) e ikemiseditse ho romela Kopo ya Tokiso ya Karolo ya 2 ya Tumello ya jwale ya Tikoloho (EA) / Lenaneo la Botsamaisi ba Tikoloho (EMPr) ya Tokelo ya ho Rafa ya Southern Orange Free State (SOFS) ho Lefapha la Mehlodi ya Dirafshwa le Eneji (DMRE). Tokelo ya ho Rafa ya SOFS e kahare ho Mmasepala wa Selehae wa Matjhabeng o haufi le Meloding le Virginia.

Kopo ena e ya hlokeha ho tshehetsa katoloso ya sebaka sa tokelo ya ho rafa mme e tla netefatsa diketsahalo tsa bokamoso sebakeng sena di a lekodisiswa, ho kenyelletsa tlhabollo. Ho hlahiswa hore tokiso e tla romelwa hore ho ikobelwe molao wa Ditokiso tsa Molao wa Naha wa Botsamaisi ba Tikoloho ho Melawana ya Tekolo ya Sekgahla sa Tikoloho (Tsebiso ya Mmuso ya Nmr. ya 326 ya Mmesa 2017) (Melawana ya EIA), Karolo ya 2, ho ya ka Molawana wa 32.

Tokiso ya Karolo ya 2 ya SOFS e etswa hore ho kenyelletswe makgetha ana a latelang kahare ho Tokelo e seng e le teng ya ho Rafa:

- Karolo e Setseng ya 1, 8, 9, 10, 14, 15, 18, 19, 22, 25, 28 le 29 Polasing ya Stilte ya Nmr. ya 138;
- Ho setseng Polasing ya Dora ya Nmr. ya 287;
- Karolo e Setseng, Karolo ya 1 Polasing ya Mooiuitzig ya Nmr. ya 352;
- Karolo e Setseng Polasing ya Schoonheid ya Nmr. ya 540; le
- Karolo e Setseng Polasing ya Kaallaagte ya Nmr. ya 562

GCS Environment South Africa (Pty) Ltd (GCS) e kgethilwe jwalo ka mosebetsi ya ikemetseng wa Tekolo ya Tikoloho ke Sibanye Stillwater ho hlophisa le ho romela ditokomane tse loketseng tse hlokehang bakeng sa Kopo ya Karolo ya 31 ya Tokiso ho latela Molao wa Naha wa Botsamaisi ba Tikoloho (Molao wa Nmr. ya 107 wa 1998): Melawana ya Tekolo ya Sekgahla sa Tikoloho, jwalo ka ha o fetotswe.

SEABO SA HAO SE BOHLOKWA

Batho ba Nang le Thahasello le ba Amehileng (dil&AP) ba memelwa ho ba le seabo ka ho fana ka ditshwaelo le ho hlahisa dingongoreho tse mabapi le tokiso e hlahisitsweng. Tlaleho ya Nakwana ya Tokiso ya Karolo ya 2 le dithuto tse amanang tsa ditsebi di tla fumaneha ho tloha ka la 26 Phuptjane 2024 ho isa ka la 25 Phupu 2024 bakeng sa ho hlahlobiswa le tshwaelo.

Tlaleho ya Nakwana ya Tokiso ya Karolo ya 2 e ka fihlellwa ho tloha ka la 26 Phuptjane 2024 ka tsela ena:

Dikhopi tse tshwarehang:	Laebrari ya Setjhaba ya Meloding, Seterata sa Meloding, Virginia, Mohala: (057) 215 1091	Laebrari ya Setjhaba ya Virginia, Virginia Garden Circle, Mohala: (057) 212 0468
Dikhopi tsa ilektronike:	Websaeteng ya GCS: **http://www.gcs-sa.biz/documents/**	Websaeteng ya datha ya mahala ya Sibanye: **https://ulwazi.datafree.co/#/pub/login**

Ka kopo romela ditshwaelo tsa hao tse ngotsweng ho GCS pele ho la 25 Phupu 2024 kapa o be teng ho diketsahalo dife kapa dife nakong eo ka yona ho tla buisanwang ka dikahare tsa tlaleho ena.

Seshene ya 1	Laboraro, 10 Phupu 2024 ka hora ya 10:00 – 12:00	Kopano ya sekannete (MS Teams) – ngodisa ka ho romela imeile ho GCS pele ho la 10 Phupu 2024
Seshene ya 2	Laboraro, 10 Phupu 2024 ka hora ya 16:00 – 18:00	Holong ya Setjhaba ya Meloding, Virginia

Ho ngodisa jwalo ka I&AP le ho fumana tlhahisoleseding e ngata ka kopo ikopanya le:
GCS (Pty) Ltd: Anelle Lötter / Sibongile Bambisa, **Mohala:** 011 803 5726,
Imeile: anellel@gcs-sa.biz / sibongileb@gcs-sa.biz
Aterese ya Poso: PO Box 2597, Rivonia, Johannesburg, 2128.

Fun run at Theunissen NG Kerk on the 17th June. Young and old took part to raise funds for the church.

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Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

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C: 071 000 5587
E: dripzone61@gmail.com
A: Room 60 / 61,
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YOUR VISION IS OUR CONCERN

Die Welkom Aquatics-swemklub se lede het die swemseisoen met hul jaarlikse prysuitdeling afgesluit. Die swemmers het goed presteer en verskeie rekordtye behaal. Afrigter Christo Jansen (heel agter) lei die swemmers saam met hulpafrigters Jayden Nel (voor, links) en Aydan de Beer (regs). Photo: Verskaf

Die Nobilis-vaardigheidskool het goed presteer in die LSOB Fast Five-toernooi. Die span het vyf wedstryde gespeel en al vyf gewen. In die Vrystaat-liga het die span ook al sy wedstryde gewen, en op 4 Junie het die span vir die LSOB-Vrystaatbeker gespeel en as die oorwinnaar uit die stryd getree. Nobilis gaan op 20 Julie aan die nasionale skolekampioenskap in Randburg deelneem. Van links is, voor: Lesedi Ledimo, Thandokazi Jokani, Puseletso Mofokenge en Tseleng Barnard; agter: Freddie Heyns, Olivia Juries, Bontle Chaotsane, Mpho Malatji, Tia-mari Mey, Mekyla Keys, Gilda Van Gent, Kedibone Tau en Yolanda van Rensburg (afrigter). Foto: Verskaf

Gogos get going

The Real Hearts Gogos Football Club (FC) played against the Bronville Gogos FC in celebration of Youth Day on 16 June. This was done to motivate young people to participate in sports. The elderly woman decided to lead by example and show that sports can open doors to the future and keep the youth off the streets and away from crime and substance abuse. The Real Hearts Gogos won with 1 - 0 against Bronville. Photo: Supplied

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Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

• GCS Ref. No: 23-1204 • DMRE Ref: FS30/5/1/2/2/10005MR

Sibanye Gold Limited (trading as Sibanye-Stillwater) intends to submit a Part 2 Amendment Application for the current Environmental Authorisation (EA) / Environmental Management Programme (EMPr) of the Southern Orange Free State (SOFS) Mining Right to the Department of Mineral Resources and Energy (DMRE). The SOFS Mining Right is in Matjhabeng Local Municipality near Meloding and Virginia.

The application is required in support of the expansion of the mining right area and will ensure that future activities in the area are considered, including rehabilitation. The amendment is proposed to be submitted in compliance to the National Environmental Management Act Amendments to the Environmental Impact Assessment Regulations (Government Notice No. 326 of April 2017) (EIA Regulations), Part 2, as per Regulation 32.

The SOFS Part 2 amendment is undertaken to include the following properties in the existing Mining Right:

- Remainder of Portion 1, 8, 9, 10, 14, 15, 18, 19, 22, 25, 28 and 29 of the Farm Stilte No. 138;
- Remainder of the Farm Dora No. 287;
- Portion of Remainder, Portion 1 of the Farm Mooiuitzig No. 352;
- Portion of Remainder of the Farm No. Schoonheid No. 540; and
- Portion of Remainder of the Farm Kaallaagte No. 562

GCS Environment South Africa (Pty) Ltd (GCS) has been appointed as the independent Environmental Assessment Practitioner by Sibanye Stillwater to compile and submit the appropriate documentation required for the Section 31 Application for Amendment in accordance with the National Environmental Management Act (Act No. 107 of 1998): Environmental Impact Assessment Regulations, as amended.

YOUR PARTICIPATION IS IMPORTANT

Interested and Affected Parties (I&APs) are invited to participate by providing comments and raising issues of concern regarding the proposed amendment. A Part 2 Draft Amendment Report and the relevant specialist studies will be available from **26 June 2024 to 25 July 2024** for review and comment.

The Part 2 Draft Amendment Report can be accessed from 26 June 2024 as follows:

Hard copies:	Meloding Public Library, Meloding Street, Virginia, Tel: (057) 215 1091	Virginia Public Library, Virginia Garden Circle, Tel: (057) 212 0468
Electronic copies:	GCS website: **http://www.gcs-sa.biz/documents/**	Sibanye's data free portal: **https://ulwazi.datafree.co/#/pub/login**

Please send your written comments to GCS by 25 July 2024 or attend any of the events during which the content of the report will be discussed.

Session 1	Wednesday, 10 July 2024 at 10:00 - 12:00	Virtual meeting (MS Teams) – register by sending an email before 10 July 2024 to GCS
Session 2	Wednesday, 10 July 2024 at 16:00 - 18:00	Meloding Community Hall, Virginia

To register as an I&AP and to receive more information please contact:
GCS (Pty) Ltd: Anelle Lötter / Sibongile Bambisa, **Tel:** 011 803 5726,
Email: anellel@gcs-sa.biz / sibongileb@gcs-sa.biz
Postal Address: PO Box 2597, Rivonia, Johannesburg, 2128

From: Anelle Lotter
Cc: Anelle Lotter; Sibongile Bambisa
Bcc: Rona Schroder; Gerda Bothma; "sbambisa@gmail.com"; "Tshifhiwa.Makhokha@dmre.gov.za"; "Cedrick.Fhedzisani@dmre.gov.za"; "bcadmin@dffe.gov.za"; "StanleyT@dffe.gov.za"; "rmagodi@dffe.gov.za"; "MLuula@dffe.gov.za"; "sdlamini@dffe.gov.za"; "memorudu@dffe.gov.za"; "wlutsch@environment.gov.za"; "Pheladi.masipa@energy.gov.za"; "mmboniseni.murathi@nersa.org.za"; "paul.mahlangu@nersa.org.za"; "AbrahamsN@nra.co.za"; "fukus@destea.gov.za"; "mkhosana@destea.gov.za"; "moalosil@destea.gov.za"; "mphapangm@destea.gov.za"; "mpmphapang@gmail.com"; "NtiliT@dws.gov.za"; "letloenyanem@dws.gov.za"; "lenongP@dws.gov.za"; "mahlael@dws.gov.za"; "kumaloz@dws.gov.za"; "maseloanek@dws.gov.za"; "musekenen2@dws.gov.za"; "mathisoz@dws.gov.za"; "DywiliS@dws.gov.za"; "letloenyanem@dws.gov.za"; "kumaloZ@dws.gov.za"; "maseloanek@dws.gov.za"; "musekeneN2@dws.gov.za"; "Nel George"; "khwinanap@dws.gov.za"; "siganunud@dws.gov.za"; "mahlael@dws.gov.za"; "LydiaB@daff.gov.za"; "info@dalrrd.gov.za"; "DLUSM@DAFF.gov.za"; "petuniam@daff.gov.za"; "ThembiNy@dalrrd.gov.za"; "CherityG@dalrrd.gov.za"; "BridgetT@Dalrrd.gov.za"; "SerahMu@Dalrrd.gov.za"; "MpumeN@Dalrrd.gov.za"; "VuyiswaO@Dalrrd.gov.za"; "JabulileM@Dalrrd.gov.za"; "mkhosana@destea.gov.za"; "mokonet@dard.gov.za"; "fsroadplanning@gmail.com"; "Kagisho.mokae@energy.gov.za"; "Kagisho.Mokae@dmre.gov.za"; "Wayleave@eskom.co.za"; "padihl@eskom.co.za"; "Mbatha.npz@sacr.fs.gov.za"; "info@sahra.org.za"; "nhiggitt@sahra.org.za"; "majoro@lejwe.co.za"; "ntakumbanav@gmail.com"; "motshewasefotha@gmail.com"; "majoro@lejwe.co.za"; "khaya@lejwe.co.za"; "mathaboleeto@gmail.com"; "Leratolachobane@icloud.com"; "skapisto@gmail.com"; "yolisa@lejwe.co.za"; "mm@lejwe.co.za"; "betty.notsi@matjhabeng.co.za"; "betty.notsi@matjhabeng.co.za"; "zigisat@matjhabeng.co.za"; "selloane.tlali@matjhabeng.co.za"; "Charles.Stofile@matjhabeng.co.za"; "Mapitsos@matjhabeng.co.za"; "kgojane.matutle@matjhabeng.co.za"; "kgojismm@gmail.com"; "Morakane.mothekhe@matjhabeng.co.za"; "tefo.morallana@matjhabeng.co.za"; "mashelenn@lejwe.co.za"; "aba.thandi@gmail.com"; "serake.leeuw@matjhabeng.co.za"; "mlungisi.martins@matjhabeng.co.za"; "bassiehelepi05@gmail.com"; "meloding@sacr.fs.gov.za"; "virginia@sacr.fs.gov.za"; "info@vslandbou.co.za"; "vkb@vkb.co.za"; "bsaaiman@ymail.com"; "bsaaiman@gmail.com"; "jack@vslandbou.co.za"; "events@grassland.org.za"; "janse@agrisa.co.za"; "nkoneigh@randwater.co.za"; "GeerinJH@eskom.co.za"; "Wayleave@eskom.co.za"; "padihl@eskom.co.za"; "MafumoML@eskom.co.za"; "ZuluKC@eskom.co.za"; "MaqubeZS@eskom.co.za"; "MotsisL@eskom.co.za"; "NingizaN@sentech.co.za"; "motlhakeS@sentech.co.za"; "ceo@birdlife.org.za"; "info@birdlife.org.za"; "john.gibbs@birdlife.org.za"; "hanneline.smit-robinson@birdlife.org.za"; "advocacy@birdlife.org.za"; "energy@birdlife.org.za"; "GarethT@ewt.org.za"; "communications@vcwater.co.za"; "WayleaCR@telkom.co.za"; "ockert@salt.ac.za"; "jnbadmin@wessa.co.za"; "ezekiel.monyamane@transnet.net"; "cobus.cloete@transnet.net"; "francis.rahlapane@transnet.net"; "Francis.Rahlapane@transnet.net"; "lourensl@ewt.org.za"; "eia@ewt.org.za"; "harrietd@ewt.org.za"; "ewt@ewt.org.za"; "ronellev@ewt.org.za"; "rynettec@ewt.org.za"; "ianl@ewt.org.za"; "bradleyg@ewt.org.za"; "KishC@ewt.org.za"; "hugo.bezuidenhout@sanparks.org"; "Kristal.Maze@sanparks.org"; "zoleka.vaveki@sanparks.org"; "info@botanicalsociety.org.za"; "kambroo@mweb.co.za"; "abourne@conservation.org"; "ezekiel.monyamane@transnet.net"; "Zanele.Manyathi@transnet.net"; "Sam.Fiff@transnet.net"; "Sibabalwe.Nwelende@transnet.net"; "felix.nel@transnet.net"; "eric.theron@transnet.net"; "Evelyn.Mekgwe@sibanyestillwater.com"; "Sylvester.Nkwe@sibanyestillwater.com"; "Letlhogonolo.Mohosh@sibanyestillwater.com"; "Bashan.Govender@sibanyestillwater.com"; "Karabo.Mathonsi@sibanyestillwater.com"; "Kahmani.Gounden@sibanyestillwater.com"; "Phenyo.Rakhudu@sibanyestillwater.com"
Subject: POSTPONEMENT OF MEETINGS: Amendment to the current EMPr for the SOFS Mining Right near Virginia – report available for public review
Date: Wednesday, 10 July 2024 09:41:00

Dear stakeholders

Following our emails below, we would like to announce that the meetings scheduled for today, Wednesday, 10 July 2024 at the Meloding Community Hall for the Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (subsidiary of Sibanye Gold Proprietary Limited) Part 2 Amendment Application for the current Environmental Authorisation (EA) / Environmental Management Programme (EMPr) of the Southern Orange Free State (SOFS) Mining Right have been postponed on the recommendation of the Municipality.

The new date and venue for the meeting will be:

Date: Tuesday, 16 July 2024
Time: 16h30
Venue: Meloding Multipurpose Centre, Virginia

Apologies for the inconvenience and we hope that you will be able to join us for the

meeting on Tuesday, 16 July 2024.

In addition, stakeholders are welcome to join a virtual meeting on 16 July 2024 which will take place at 10:00.
This meeting allows for participation by those who may find it difficult to attend the physical meeting.

Join the meeting now

https://teams.microsoft.com/l/meetup-join/19%3ameeting_NWQ0N2Y5MTktMWJlNi00MmIxLTkwYjEtYjYzMzI5MWFhMDgx%40thread.v2/0?context=%7b%22Tid%22%3a%228359ed90-4f92-4ea0-962a-9fe1ab9c9f70%22%2c%22Oid%22%3a%22e258e046-d71d-4aba-8988-c0adf9af9e8a%22%7d

The objective of both meetings is to discuss the Part 2 Draft Amendment Report which is currently available for review.

YOUR PARTICIPATION IS IMPORTANT
Interested and Affected Parties (I&APs) are invited to participate by providing comments and raising issues of concern regarding the proposed amendment. A Part 2 Draft Amendment Report and the relevant specialist studies will be available from 25 June 2024 to 25 July 2024 for review and comment.

The Part 2 Draft Amendment Report can be accessed from 25 June 2024 as follows:
Hard copies:
Meloding Public Library, Meloding Street, Virginia, Tel: (057) 215 1091
Virginia Public Library, Virginia Garden Circle, Tel: (057) 212 0468
Electronic copies:
GCS website: http://www.gcs-sa.biz/documents/ or https://gcs-sa.biz/wp-content/uploads/2024/06/23-1204-SOFS-Project-EMPr-Amendment-Report-Draft.pdf
Sibanye's data free portal: https://ulwazi.datafree.co/#/pub/login

To register as an I&AP and to receive more information please contact:
GCS (Pty) Ltd: Anelle Lötter / Sibongile Bambisa, Tel: 011 803 5726, Email: anellel@gcs-sa.biz / sibongileb@gcs-sa.biz
Postal Address: PO Box 2597, Rivonia, Johannesburg, 2128

We are looking forward to your participation.

Kind regards
Anelle Lötter / Sibongile Bambisa
Stakeholder Engagement

Tel +27 (0) 11 803 5726
Fax +27 (0) 11 803 5745

Email anellel@gcs-sa.biz / Sibongileb@gcs-sa.biz / gerdab@gcs-sa.biz
Web www.gcs-sa.biz
Address 63 Wessel Road, Rivonia,
Johannesburg, South Africa

From: Anelle Lotter <anellel@gcs-sa.biz>
Sent: Friday, July 5, 2024 10:28 AM
Cc: Anelle Lotter <anellel@gcs-sa.biz>; Sibongile Bambisa <Sibongileb@gcs-sa.biz>
Subject: REMINDER: Amendment to the current EMPr for the SOFS Mining Right near Virginia – report available for public review

Dear stakeholders

We would like to remind you of the availability of the Part 2 Draft Amendment Report and the relevant specialist studies which is available until 25 July 2024 for review and comment.
Please see the email below and the attachments for more information.

We would like to remind you of the opportunity to discuss the contents of the report at any of the following stakeholder sessions:

- Session 1 on Wednesday, 10 July 2024 at 10:00 – 12:00. This will be a virtual meeting (MS Teams) – register by sending a return email before 10 July 2024 to GCS
- Session 2 on Wednesday, 10 July 2024 at 16:00 – 18:00. This meeting will take place at the Meloding Community Hall, Virginia

Hard copies of the Part 2 Draft Amendment Report are available at:

- Meloding Public Library, Meloding Street, Virginia, Tel: (057) 215 1091
- Virginia Public Library, Virginia Garden Circle, Tel: (057) 212 0468

Electronic copies of the Part 2 Draft Amendment Report can be downloaded from:

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- Sibanye's data free portal: https://ulwazi.datafree.co/#/pub/login

To register as an I&AP and to receive more information please contact:
GCS (Pty) Ltd: Anelle Lötter / Sibongile Bambisa, Tel: 011 803 5726, Email: anellel@gcs-sa.biz / sibongileb@gcs-sa.biz

Kind regards
Anelle Lötter / Sibongile Bambisa
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Web www.gcs-sa.biz
Address 63 Wessel Road, Rivonia,
Johannesburg, South Africa

From: Anelle Lotter <anellel@gcs-sa.biz>
Sent: Tuesday, June 25, 2024 12:00 PM
Cc: Anelle Lotter <anellel@gcs-sa.biz>; Rona Schroder <ronas@gcs-sa.biz>; Gerda Bothma <gerdab@gcs-sa.biz>; Sibongile Bambisa <Sibongileb@gcs-sa.biz>
Subject: Amendment to the current EMPr for the SOFS Mining Right near Virginia – report available for public review

Dear stakeholders

Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (Sibanye Stillwater Limited holds 100% in Sibanye Gold (Pty) Ltd and Sibanye Gold (Pty) Ltd holds 100% in Wits Gold) intents to submit a Part 2 Amendment Application for the current Environmental Authorisation (EA) / Environmental Management Programme (EMPr) of the Southern Orange Free State (SOFS) Mining Right to the Department of Mineral Resources and Energy (DMRE). The SOFS Mining Right is in Matjhabeng Local Municipality near Meloding and Virginia.

The application is required in support of the expansion of the mining right area and will ensure that future activities in the area are considered, including rehabilitation.
The amendment is proposed to be submitted in compliance to the National Environmental Management Act Amendments to the Environmental Impact Assessment Regulations (Government Notice No. 326 of April 2017) (EIA Regulations), Part 2, as per Regulation 32.

The SOFS Part 2 amendment is undertaken to include the following properties in the existing Mining Right:

- Remainder of Portion 1, 8, 9, 10, 14, 15, 18, 19, 22, 25, 28 and 29 of the Farm Stilte No. 138;
- Remainder of the Farm Dora No. 287;
- Portion of Remainder, Portion 1 of the Farm Mooiuitzig No. 352;
- Portion of Remainder of the Farm No. Schoonheid No. 540; and
- Portion of Remainder of the Farm Kaallaagte No. 562

GCS Environment South Africa (Pty) Ltd (GCS) has been appointed as the independent Environmental Assessment Practitioner.

Interested and Affected Parties (I&APs) are invited to participate by providing comments and raising issues of concern regarding the proposed amendment.
A Part 2 Draft Amendment Report and the relevant specialist studies will be available from 26 June 2024 to 25 July 2024 for review and comment.

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Please send your written comments to GCS by 25 July 2024 or attend any of the events during which the content of the report will be discussed.
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To register as an I&AP and to receive more information please contact:
GCS (Pty) Ltd: Anelle Lötter / Sibongile Bambisa, Tel: 011 803 5726, Email: anellel@gcs-sa.biz / sibongileb@gcs-sa.biz

Attached please find a Background Information Document (English and Sepedi) as well as registration and comments sheets for your completion and return to us.
The attached BIDs provide more information about the application and the process to be followed.

Kind regards
Anelle Lötter / Sibongile Bambisa
Stakeholder Engagement

Tel +27 (0) 11 803 5726
Fax +27 (0) 11 803 5745
Email anellel@gcs-sa.biz / Sibongileb@gcs-sa.biz / gerdab@gcs-sa.biz
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Web: www.gcs-sa.biz

Delivery Notice

Date:	24 June 2024	
Company:	Meloding Public Library	**From:** Gerda Bothma / Rona Schroder
Attention:	The Librarian	
RE:	**Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia** **Availability of the Part 2 Draft Amendment Report for public review and comment from 26 June to 25 July 2024**	

Quantity	Item
1 x hard copy	Part 2 Draft Amendment Report

Please acknowledge receipt of documentation:

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Signature

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Delivery Notice

Date:	24 June 2024	
Company:	~~Meloding Public Library~~ Virginia Library	**From:** Gerda Bothma / Rona Schroder
Attention:	The Librarian	
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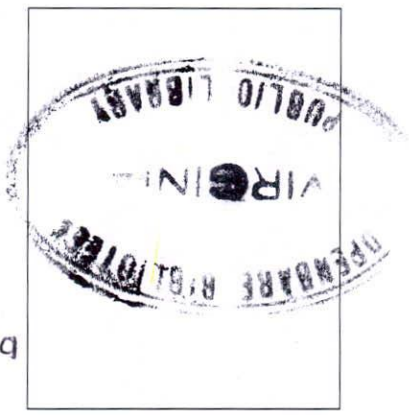

Please advise us if enclosures are not as described.

Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

GCS Ref. No: 23-1204
DMRE Ref: FS30/5/1/2/2/10005MR

Sibanye Gold Limited (trading as Sibanye-Stillwater) intents to submit a Part 2 Amendment Application for the current Environmental Authorisation (EA) / Environmental Management Programme (EMPr) of the Southern Orange Free State (SOFS) Mining Right to the Department of Mineral Resources and Energy (DMRE). The SOFS Mining Right is in Matjhabeng Local Municipality near Meloding and Virginia.

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- Portion of Remainder of the Farm No. Schoonheid No. 540; and
- Portion of Remainder of the Farm Kaallaagte No. 562

GCS Environment South Africa (Pty) Ltd (GCS) has been appointed as the independent Environmental Assessment Practitioner by Sibanye Stillwater to compile and submit the appropriate documentation required for the Section 31 Application for Amendment in accordance with the National Environmental Management Act (Act No. 107 of 1998): Environmental Impact Assessment Regulations, as amended.

Kopo ya Tokiso ya Karolo ya 2 ya Lenaneo la Botsamaisi ba Tikoloho (EMPr) la Tokelo ya ho Rafa ya Southern Orange Free State (SOFS) ya Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") haufi le Virginia

Nmr. ya GCS. ya Bopaki: 23-1204
Bopaki ba DMRE: FS30/5/1/2/2/10005MR

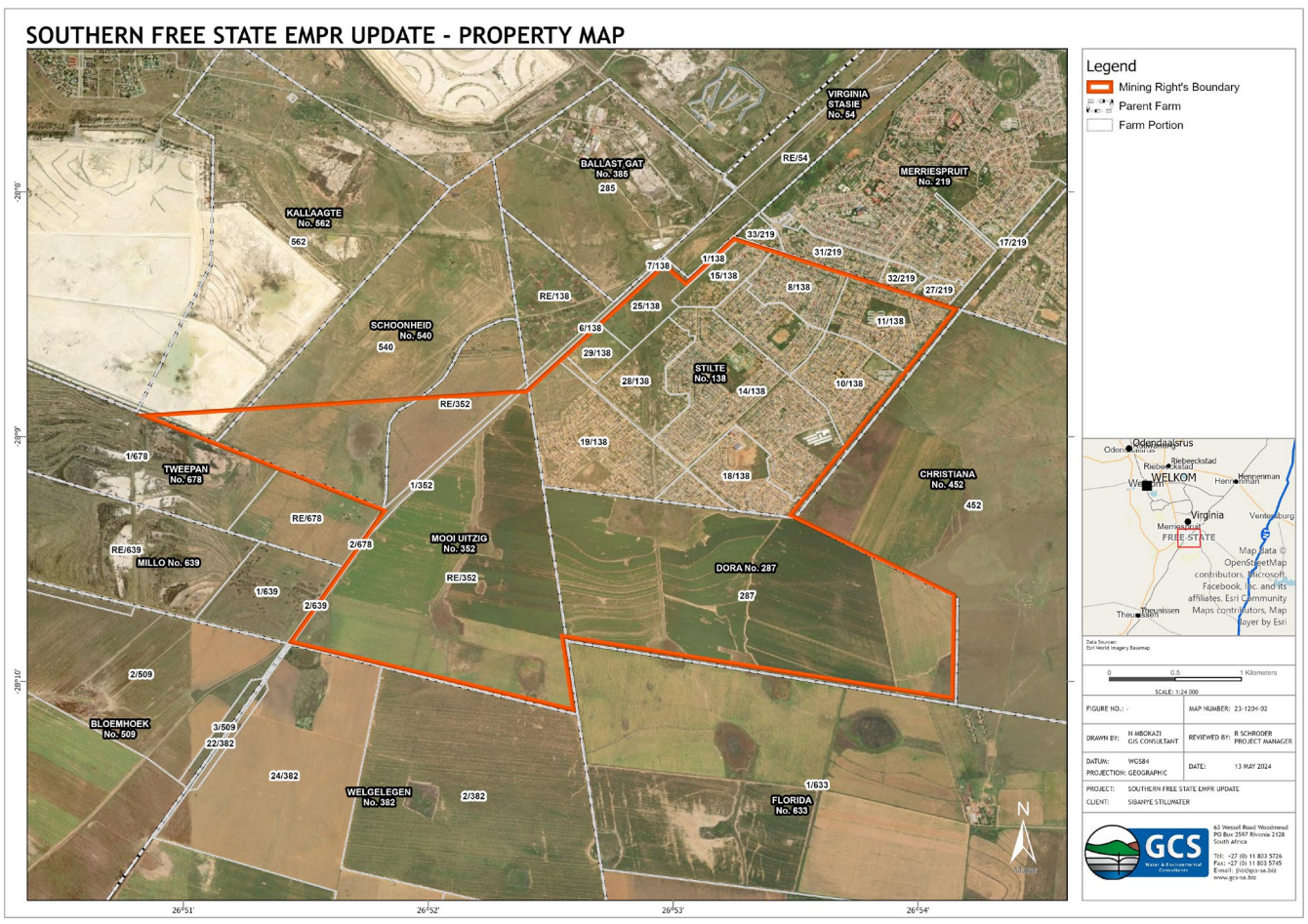
Sibanye Gold Limited (e hwebang e le Sibanye-Stillwater) e ikemiseditse ho romela Kopo ya Tokiso ya Karolo ya 2 ya Tumello ya jwale ya Tikoloho (EA) / Lenaneo la Botsamaisi ba Tikoloho (EMPr) ya Tokelo ya ho Rafa ya Southern Orange Free State (SOFS) ho Lefapha la Mehlodi ya Dirafshwa le Eneji (DMRE). Tokelo ya ho Rafa ya SOFS e kahare ho Mmasepala wa Selehae wa Matjhabeng o haufi le Meloding le Virginia.

Kopo ena e ya hlokeha ho tshehetsa katoloso ya sebaka sa tokelo ya ho rafa mme e tla netefatsa diketsahalo tsa bokamoso sebakeng sena di a lekodisiswa, ho kenyelletsa tlhabollo. Ho hlahiswa hore tokiso e tla romelwa hore ho ikobelwe molao wa Ditokiso tsa Molao wa Naha wa Botsamaisi ba Tikoloho ho Melawana ya Tekolo ya Sekgahla sa Tikoloho (Tsebiso ya Mmuso ya Nmr. ya 326 ya Mmesa 2017) (Melawana ya EIA), Karolo ya 2, ho ya ka Molawana wa 32.

Tokiso ya Karolo ya 2 ya SOFS e etswa hore ho kenyelletswe makgetha ana a latelang kahare ho Tokelo e seng e le teng ya ho Rafa:

- Karolo e Setseng ya 1, 8, 9, 10, 14, 15, 18, 19, 22, 25, 28 le 29 Polasing ya Stilte ya Nmr. ya 138;
- Ho setseng Polasing ya Dora ya Nmr. ya 287;
- Karolo e Setseng, Karolo ya 1 Polasing ya Mooiuitzig ya Nmr. ya 352;
- Karolo e Setseng Polasing ya Schoonheid ya Nmr. ya 540; le
- Karolo e Setseng Polasing ya Kaallaagte ya Nmr. ya 562

GCS Environment South Africa (Pty) Ltd (GCS) e kgethilwe jwalo ka mosebetsi ya ikemetseng wa Tekolo ya Tikoloho ke Sibanye Stillwater ho hlophisa le ho romela ditokomane tse loketseng tse hlokehang bakeng sa Kopo ya Karolo ya 31 ya Tokiso ho latela Molao wa Naha wa Botsamaisi ba Tikoloho (Molao wa Nmr. ya 107 wa 1998): Melawana ya Tekolo ya Sekgahla sa Tikoloho, jwalo ka ha o fetotswe.



YOUR PARTICIPATION IS IMPORTANT

Interested and Affected Parties (I&APs) are invited to participate by providing comments and raising issues of concern regarding the proposed amendment. A Part 2 Draft Amendment Report and the relevant specialist studies will be available from 26 June 2024 to 25 July 2024 for review and comment. The Part 2 Draft Amendment Report can be accessed from 26 June 2024 as follows:

Hard copies:	Meloding Public Library, Meloding Street, Virginia, Tel: (057) 215 1091	Virginia Public Library, Virginia Garden Circle, Tel: (057) 212 0468
Electronic copies:	GCS website: http://www.gcs-sa.biz/documents/	Sibanye's data free portal: https://ulwazi.datafree.co/#/pub/login

Please send your written comments to GCS by 25 July 2024 or attend any of the events during which the content of the report will be discussed.

Session 1	Wednesday, 10 July 2024 at 10:00 – 12:00	Virtual meeting (MS Teams) – register by sending an email before 10 July 2024 to GCS
Session 2	Wednesday, 10 July 2024 at 16:00 – 18:00	Meloding Community Hall, Virginia

To register as an I&AP and to receive more information please contact:

GCS (Pty) Ltd: Anelle Lötter / Sibongile Bambisa, Tel: 011 803 5726, Email: anellel@gcs-sa.biz / sibongileb@gcs-sa.biz
Postal Address: PO Box 2597, Rivonia, Johannesburg, 2128

SEABO SA HAO SE BOHLOKWA

Batho ba Nang le Thahasello le ba Amehileng (dil&AP) ba memelwa ho ba le seabo ka ho fana ka ditshwaelo le ho hlahisa dingongoreho tse mabapi le tokiso e hlahisitsweng. Tlaleho ya Nakwana ya Tokiso ya Karolo ya 2 le dithuto tse amanang tsa ditsebi di tla fumaneha ho tloha ka la 26 Phuptjane 2024 ho isa ka la 25 Phupu 2024 bakeng sa ho hlahlobiswa le tshwaelo. Tlaleho ya Nakwana ya Tokiso ya Karolo ya 2 e ka fihlellwa ho tloha ka la 26 Phuptjane 2024 ka tsela ena:

Dikhopi tse tshwarehang:	Laebrari ya Setjhaba ya Meloding, Seterata sa Meloding, Virginia, Mohala: (057) 215 1091	Laebrari ya Setjhaba ya Virginia, Virginia Garden Circle, Mohala: (057) 212 0468
Dikhopi tsa ilektronike:	Websaeteng ya GCS: http://www.gcs-sa.biz/documents/	Websaeteng ya datha ya mahala ya Sibanye: https://ulwazi.datafree.co/#/pub/login

Ka kopo romela ditshwaelo tsa hao tse ngotsweng ho GCS pele ho la 25 Phupu 2024 kapa o be teng ho diketsahalo dife kapa dife nakong eo ka yona ho tla buisanwang ka dikahare tsa tlaleho ena.

Seshene ya 1	Laboraro, 10 Phupu 2024 ka hora ya 10:00 – 12:00	Kopano ya sekannete (MS Teams) – ngodisa ka ho romela imeile ho GCS pele ho la 10 Phupu 2024
Seshene ya 2	Laboraro, 10 Phupu 2024 ka hora ya 16:00 – 18:00	Holong ya Setjhaba ya Meloding, Virginia

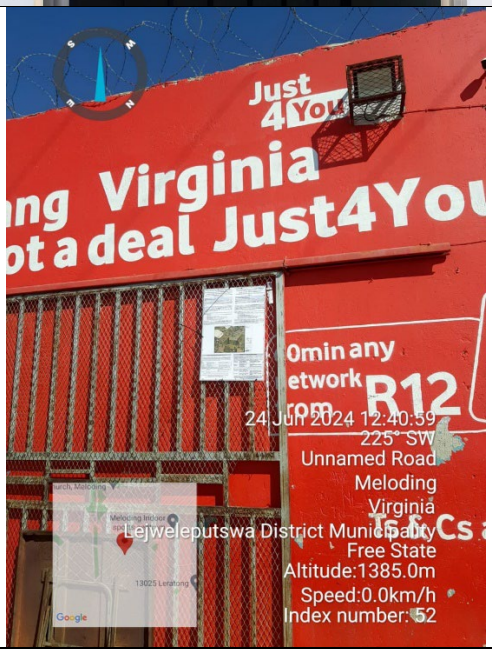
Ho ngodisa jwalo ka I&AP le ho fumana tlhahisoleseding e ngata ka kopo ikopanya le: GCS (Pty) Ltd: Anelle Lötter / Sibongile Bambisa, Mohala: 011 803 5726, Imeile: anellel@gcs-sa.biz / sibongileb@gcs-sa.biz. Aterese ya Poso: PO Box 2597, Rivonia, Johannesburg, 2128

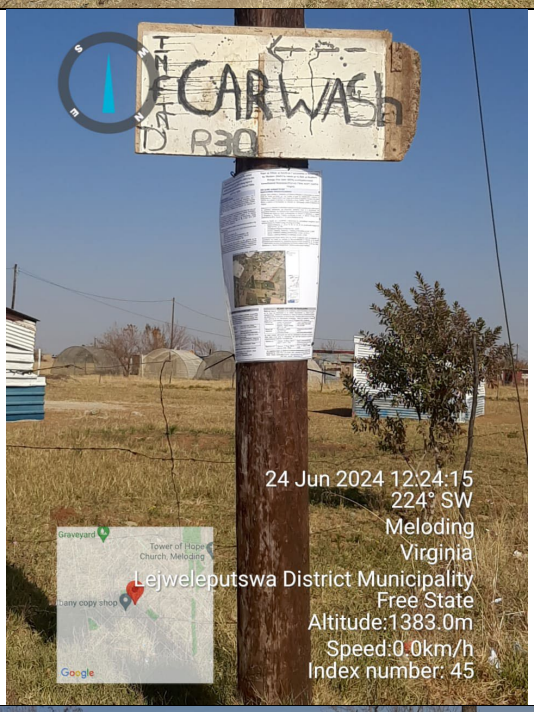
Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

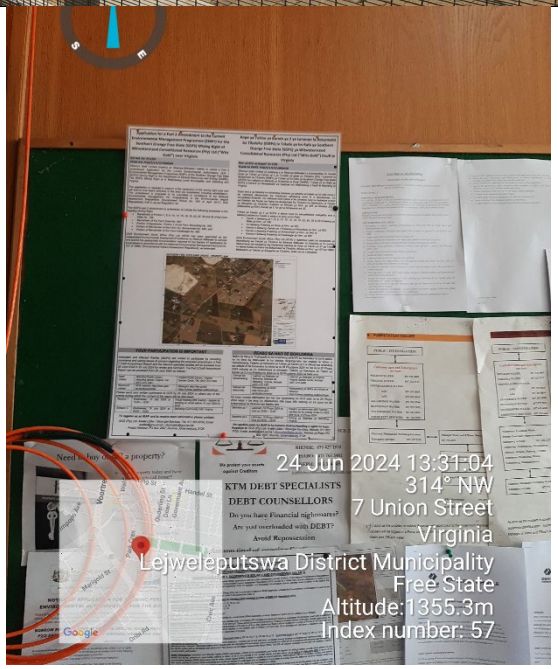
Placement of site notices

24 June 2024

	Description	Photo
1.	Meloding Library - 1465 Kekeletso Road, Meloding, Virginia	
2.	At Virginia Public Library – 14 Union Street, Virginia	

	Description	Photo
3.	At the Meloding Police Station – 608 Meloding Way, Virginia	
4.	At Meloding Community Hall – 1148 Meloding Way, Virginia	
5.	Dumelang Virginia Tuck Shop, Meloding Township, Virginia	

	Description	Photo
6.	Meloding Township, adjacent to the proposed project site, Virginia	
7.	Meloding Township, next to St John Church, Virginia	
8.	Meloding Township, site notice placed at the proposed project site, Virginia	

	Description	Photo
9.	Meloding Public Clinic, 12605 Leratong Street, Virginia	
10.	Matjhabeng Local Municipality Notice board, 7 Union Street, Virginia	

Attendance Register

Tuesday, 16 July 2024: Site Visit

Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
MR	SYLVESTER	NKWE	SIBANYE	SYLVESTER.NKWE@SIBANYESTILLWATER.COM	0799643356	
Mr	Phemyo	Rakludu	Sibanye	Phemyo.rakludu@sibanyestillwater.com	0681309080	
Miss	Evelyn	Melegwe	Sibanye	evelyn.melegwe@sibanyestillwat	0730793110	
Ms	Suret	Dercksen	Sibanye	suret.dercksen@sibanyestillwater.com	083 796 2091	
MR	STEVEN	WILD	SIBANYE	steven.wild@sibanyestillwater.com	072806 0120	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
ASU	Lomaka	NGODO	Matjhabeng LM	lomakangodo@matjhabeng.co.za	0805371505	
	THABO	PANYANI	CFO	CFO@MATJHABENG.CO.ZA	0825514866	
	Sello	Senoya	M.LM Manager	Sellos@matjhabeng.co.za	0835573780	
	Thandi	Xaba	MMC S.P	moripoo@gmail.	0721938440	
	Lennox	Rubulana	Matjhabeng	rubulanal@gmail.com	0644380539	
	Anthony	Khepeng	Ward cllr (6)	maupa.khepeng@matjhabeng.co.za		
Cllr.	BASSIE	HELEPI	WARD 5 Cllr	bassiehelepi@gmail.com	0718946741	
CLLR	Mpolaile	Radebe	Matjhabeng Municipality	mpolailer@gmail.com	0828822441	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Mavabane	Sefatsa	MLM		0608034872	
MR	Mlungisi	Martins	MLM	mlungisi.martins@mafikeng.co.za	0724010176	
	BSM Stofile	Stofile	MLM			
	Lethogonolo	Moholo	Sibanye	Lethogonolo.moholo@sibanyegw	0683593419	

Attendance Register

Tuesday, 16 July 2024: Public Meeting

Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
Mr	Thabo	Lichakane	MUPD org		083 287 3624	
Mr	EMMANUEL SIKADE	SIKADE	EARTH M BRICKS AND CONSTRUCTION SERVICES	manu.sikade@gmail.com	081 034 2505	
Ms	Thandeka	Jebade	ADELTHA	thandojb@gmail.com	072 546 6738	
Mr	Refilwe	Madia	RKM Sinabo trading	refiloemadia95@gmail.com	078 861 40 46	
Mr	Toos	Mokoena	MPD	toosmokwenalegend@gmail	068 574 1401	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
Ms	Moziganeko	Vanga	MGD	noziganekovanga2@gmail.com	073 583 0656	[signature]
Ms	Sebolewe	Zali	MGD	sebolewez@gmail.com	063 130 4238	[signature]
MR	Joseph.	MANJANE.		mampabamase@gmail.com. —	083 486 1424	[signature]
M/	Marupng	Ramochalla		—	083 857 0006	[signature]
Msy	Julia	Iseke		—		[signature]
MRS	Alinae	Mofokeng		-	078 4828 067	[signature]
MRS	Malefu	Ramenete	Bophelong NPO	Malefumatisetso90@gmail.com	0783848332	[signature]
Mr	Bongani	Mfecane	Q. life change Movement. NPC	bongiMfe@gmail.com	0797093777	[signature]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
Ms	MATSHIDISO	NKOANA	—	Matshidisojohanna@gmail.com	0635616563	[illegible]
MR	Khotso	Meloi	Tikra Corporate Solutions & other projects	neomeloiso@gmail.com	067 016 3966	[illegible]
MS	Matshepiso	Ramatsou	—	Sellnahramatsou@gmail.com	0683354376	Ramatsou
Ms	Seipati	Mohlabi	—	—	0739552400	[illegible]
MS	PONTSHO	LIJANE	—	—	083 965 5968	[illegible]
[illegible]	Dikeledi	Mothetho	—		0624297098	[illegible]
MR	Regina	Khitsane	—	okkhitsane@gmail	0795922819	[illegible]
Mrs	Buyiswa	Nzuza	—	—	0730894254	[illegible]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
Ms	Mannini	Mapitsi	—	—	0647686499	[illegible]
	M.Mamosili	Molatoli				Molatoli
	Twelane	Lapisi	—	—	0781189914	[illegible]
Mr	Malosane	Dashe	Lemmoshe	Malosanedashe @gmail.com	0655776054	[illegible]
Mr.	Joseph	Pitso	community	jpitsolelokmalego	0786722759	[illegible]
mr	Thabo	Lichakane	N/A	N/A	0832473807	[illegible]
Mr	Tshepo	Motsetse	Rutisco	ramotsetse05@gmail	0732142714	[illegible]
Mr	Isaac	Tshikundu	N/A	tshikundhisaac2@gmail.com	0735431149	[illegible]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
Mr	George	Molatedi	N/A	N A	0788514863	
Mr	Tatsi	Tats	N/A		0790899107	
	Andries	Mabaso	N/A		063 097 5457	
	J. Sakude	Lande	Priest Church	Nil	0710026877	
Mrs	Khethiwe	Mothobi	Tailor Made Trading & Projects (Pty) Ltd	Khethiwe@tailormade trading.co.za	0720240014	
Mr	Finger	Lehlohonolo	Rommomona community extrovert N.P.O	Fingerhloks@gmail.com	0783265549	
Mrs	T.G. Lebakeng	Lebakeng	Romatina Community Extroverts N.P.O	lebohanglebakeng88 gmail.com	063 054 9090	
Mrs	P. Motse	Motse	N/A Miner	N/A	078 53979 56	P. Motse

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Fuiswa	Ndinisa			0737552709	Ndinisa
F	Ndauzola	Macengano			0782961155	[signature]

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Attendance Register

Tuesday, 16 July 2024: Public Meeting

Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
Ms	Matsoso	Modiehi	WARD 05		069 909 7028	Matsoso
Mrs	Katu	Jimi	Ward 6		064 999 7524	Katu
Ms	Mmamatshidiso	Ngeneli	ward 6		060 358 1949	[illegible]
Mrs	Matshidiso	Motsamai	Ward 4		0605640856	Motsamai
Mr	Sbupiwe	MQAI	4		0735214937	[illegible]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Mokubung	Potgang	6		-	[signature]
	Bongani	Matoro	7		0826474121	[signature]
	Vuyiswa	Thotela	7		0733062976	Thotela
	Andris	Bogobejane	04		N/A	A.Bobejaan
	Ania'	Phiri	06		N/A	X
	Nobake	Nobadula	04		0780832102	[signature]
	Molebatsi	Tshehle	07		0785765081	[signature]
	Senn	Tsehle	04		0733467193	[signature]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
Ms	Itumeleng	Mothokoisi	06		060 364 9287	[illegible]
	Dintletse	Malunga	07		0847266685	[illegible]
	Masabata	Mokoena	06		0640670219	[illegible]
	Gladys	Mosho	06		0718726823	[illegible]
	Esrael	Zoko	07		0731793285	[illegible]
	Lomile	Mdlahloe	07		0782100376	[illegible]
	Moselanga	Pan	06		0604880141	[illegible]
	Aaron	Khoza	07		078848[illegible]8 96	[illegible]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Mohlakola	Phetlane	06	06	0660083199	Phetlane
	Mampe	Kheswa	06	06	0664080888	[signature]
	Botang	Photolwa	06	06	N/A	Tsotang
	Zintgesile	Dlikhabo	07	07	0834104416	[signature]
	Mojalefa	Nkopane	07	07	0787697174	[signature]
	Paul	Faku	09	09	0738175193	[signature]
	Moheli	Likhoeli	04	04	0633570365	[signature]
	Bhekani	Mohlahloe	06	06	0718660996	[signature]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Mothichi	Mhlanga	06	06	0823195415	Mhlanga
	Xola	Gebeshee	07	07	0721931666	
	Boitumelo	Mmolai	05	05	0724723283	
	Keitumetse	Makoane	06	06	0731254919	
	Matang	Porotloane Moleko	06	06	0838845570	
	Nondyebo	Makaleng	07	07	0634431013	N. Makaleng
	Zolekaye	Isaac	07	07	0719735367	
	Anele	Mpongwana	06	06	0782753872	Mpongwana

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Relebohile	Kgetshwane	06	06	0634994238	
	Rantsho	Thlotlhalemajwe	07	07	0695575914	
	Moeketsi	Hdayi	07	07	0834981532	
	Mamthandazo	Rantsane	06	06	0718160039	Rantsane
	M.P	Motsamai	06	06	0738360356	
	Suzen	Kayane	05	05	0604077375	
	Sampi	Manzi	06	06	0634242382	
	L.G	Fuku	05	05	0786822271	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Tebaho	Phahlane	06	06	0604040730	
	Mphiso	Mohapi	06	06	0657475O5	
	Keneilwe	Leela	05	05	0719744125	
	Itiji	Ramatlapeng	06	06	0665462367	
	Nozipho	Mmipi	07	07	0736633975	
	Tlaleng	Mosiuoa	07	07	0764471971	
	Keketso	Mokebe	06	06	0732333411	Mokebe
	Makamohelo	Molawehi	06	06	0686894326	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Rotshabile	Molahloe	06	06	0719352749	
	David	Lepitla	07	07	0665803605	
	Lolo	Mhlanga	07	07	0780301312	
	Refiloe	Pitiki	06	06	0735801664	
	Reorabetsoe	Nkaki	06	06	0769833627	
	Montlantla	Mhlanga	07	07	0788465575	
	Boitelo	Lindi	07	07	0738798757	
	Karabo	Metsing	07	07	0735776146	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Kattego	Mamnye Maye	06	06	0735177797	
	Mpho	Tomanyane	06	06	0836714938	
	Thabiso	Mesapo	06	06	0604356288	
	Thabiso	Seboko	06	06	073252688	
	Modiehi	Mohapi	06	06	0736897~~74~~4	
	Mlombikodwa	Buso	09	09	0737649760	
	Patric	Buso	09	09	0724735073	
	Mosakwele	Buso	09	09	0833278751	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Mbmathemba	Mqwemla	06	06	0793571483	[signature]
	Mapaseka	Moshoit	06	06	0832173290	[signature]
	Zimkhitha	Mgecwa	05	05	0717107310	[signature]
	P. S	Makhabane	07	07	0760431345	[signature]
	Masipho	~~Khe~~ Tyhaliti	05	05	0687029042	[signature]
	Zamile	Mpunga	05	05	0634618237	[signature]
	Monica	Tembe	06	06	0660049082	[signature]
	Mandla	Tembe	06	06	0738522132	[signature]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Mosoeu	Matlaletsa	05	05	0786973754	M.Matlaletsa
	Sello	Molelekoa	06	06	0732259571	
	Palese	Sephula	07	Palesesephula2809@gmail.com	0794242408	
	DIMAKATSO	MUSA	07	07	0603858296	
	MAKAMOHELO	MOLAI	07		0833542750	
MR.	M. Sephula	Sephula	MOTHO OJWALO HOLDINGS.	smph0991@gmail.com	0735717000	
R	Rethabile	Molahloe	06	rethabilemolahloe92@gmail.com	071 935 2749	MOLAHLOE
Ms	Tshepang	Molahloe	06	tshepangmolahloe2@gmail.com	071 8660996	MOLAHLOE

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
L.S	LOMILE	MOLAHLOE	07	lomilemolahloe@gmail.com	0782100376	[signature]
T	Tony	Molitshwe	06	TonyMolitshwe@gmail	0719352019	[signature]
	Peni	Molelekoa	04	davidPeni@gmail.com	0630728754	[signature]

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Attendance Register

Tuesday, 16 July 2024: Public Meeting

Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Madibaba	Tsoeletsi	—	Tsoeletsimadikoba@gmail.com	0634721077	M. Tsoeletsi
	Maseperele	Matlokotsi	—	—	073 632 2808	
	Sello	Tse	—	—	0793241575	
	N/Muso	Nonoise	—	—	0656208372	
	Matshidiso P. Mohapi	Mohapi	—		0738557197	M. P. Mohapi

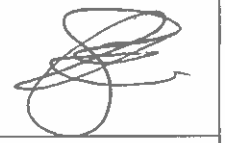
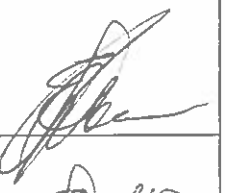
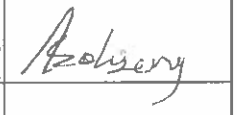
Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
Ms	DISEBO	KETIME	N/A	@liceketim@gmail.com	073 8362 523	D.A
M.O	Moipone	Phaloane	N/A		066 6668191	MS Phaloane
Mrs	Anny	Rasenyane.	N/A	N/N	AR	
MR	TSHELE	MONSOBO	N/A	N/A	N/A	
MS	Selloane	Liphoolo	N/A	N/A	073 045 9634	
Mrs	Esther	Makuwa	N/A	esthermakuwa839@gmail.com	0784793570	
Mrs	Dimakatso	Ntsie	N/A	N/A	0631942216	
Mrs	REBECCA	Diomo	N/A	N/A	0604621725	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
MR	Rosina	Makoro	N/A	N/A	0710722234	[signature]
PM	Paulina	Mahasa	A/N	N/A	X	[signature]
Mr	Vuyisile	Kâpa	Tetra	jacksonvuyisile5	0711833063	[signature]
Miss	Judith	Matlaletsa	Noobendwane Trading	mosajudith@gmail.com	0786230275	[signature]
Mrs	Joyce	Rakhalane	Pat & Joy Supplies	tsepira28@gmail.com	0783781225 0650371590	[signature]
Mrs	Esther	Mphore	Rorisetumi Holdings	esthermphore45@gmail.com	071 9560636	[signature]
Miss	Mpho	Matlaletsa	L. Monyobi Holdings	N/A	073 743 1092	[signature]
MR	Hosea	Mohlamme	N/A	Chimo.45@gmail.com	0834568355	[signature]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
MR	Seketa	Maqhosha	Bahlodi ba lejweleputswa	ssmaqhosha gmail	0686784509	
	Mompezi	Mofokeng	N/A	N/A		
MR	Thabiso	Mutsoe	~~N/A~~ Virginia Green Community	thabisoMutsoe.g mail	2 0825078932	
MRS	MODIEMI	MAQHOSHA	BAHLODI BA LEJWELEPUTSWA	N/A	0664501529	
Miss	MAPULE	POTSANE	BAHLODI BA LEJWELEPUTSWA	N/A		
Miss	Kelepso	Mantshiyane	Bahlodi ba lejweleputswa	N/A	0739981737	
Miss	Ntebaleng	Papala	lejweleputswa	N/A	0656332169	
Miss	Maleta	Papala	Lejweleputswa	N/A	0611924027	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
MR	Zamile	Poposé	—	—	073 2340895	
Mrs	Modiehi	Finger	—	fingerjoy8@gmail.com	0835812ab	
MS	Dimakatso	Seabelo	—	—	0835812ab	Seabelo
MR	M C	SENOKOANE	—	—	0634480185	
Mrs	Dimakatso	Maliela	—	—	0603245753	
Mrs	Sibongile	Ntombo	—	—	0784666651	
Mrs	Dibuseng	Mathabi	—	—	0604735055	
Mrs	Nthabiseng	Lethoko	—	nthabiseng@gmail.com	0783988931	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
Male	M.C Adamas	Ndanase	—	—	0734925879	[illegible]
Female	Dikeledi	Tlhatudi	—	—	0638802779	[illegible]
Mrs	Martha	Mohlamme	—	—	083 456 8355	M Mohlamme
Mme	Seapei	Majoro	—	—	—	Seapei
Miss	Mamolate	Manase	—	—	0837480622	Manase
Miss	Dimakatso	Moruri	—	—	0695664328	[illegible]
Miss	Mathabo	Moruri	—	—	0783641229 ~~089~~	[illegible]
Miss	Lebohang	Moruri	—	—	0724388712	[illegible]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
MS	Winnie	MOKURI			071824148	
MR	PAKISO	Ditalame			073230004	
MR	JAPPIE	TATSI	TATSIMHLABA TRADING & PROJECTS	Jappietatsi@gmail	0657325670	
MR	SEISO	STEYNBERG	11		0737631832	
MR	BACKSTONE	MBOMA	NPO.		0734956600	
MRS	Matgoko	Peli			0733565138	
MRS	Melda	Kolisang			071 993 4629	
MRS	Purity	Kolisang			071 5406665	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Masisi	Nomatye			073505096	Nomatye
	Magdalena	Makhale	1275u lel			
	Zandile	Sikiti	—		083[illegible]731994	Z. Siki.

Attendance Register

Tuesday, 16 July 2024: Public Meeting

Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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Miss	MATIEO	MOKOOANE		6236	0603546962	
miss	mohalepule	Matisa			0729528379	
Miss	Lilisa	Mahloko			0733608225	
Ms	Thandiwe	Kotelo			0646293794	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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	Vusimuzi	Kumalo			068 72 59208	J.K.
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	Felicia	TSEKAHAL		tsekahalif@gmail.com	064 025 1739	[illegible]
	PULAME	MOTHOBI		Pulane.Lomo@gma	064 543 9003	[illegible]
	Matshediso	Molai			083 995 2807	M.Molai
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Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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	MOEKETSI	TAKA		takaandrewg.mail.com	0759268184	[signature]
	Reitumetse ~~Mokoena Retuma~~	Mokoena		Mokoena0926200/q[illegible]	068 422 3656	[signature]
	Dimakatso	mokhwele			0730726006	[signature]
	Mlamli	Ndyaloane			0730027273	[signature]
	Noyeluma	Jonas			0734091194	[signature]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	Simpiwe	SAJI			0731597948	[illegible]
	MHLONIPHENI	Gcuma			0738164240	[illegible]
	Selina	Masitha			0827444527	[illegible]
	MOTAWANE	TSUBANE			0631670584	[illegible]
	R.Ethumetse	Mphane			0738920206	[illegible]
	Seipati	Molefi			0710405434 ~~0710504343~~	[illegible]
	Nthabiseng	mokoena			0719531815	Mokoena
	Lucy	Balo			0635190219	[illegible]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
	KHANYISWA	NOVEVE			078 540 7269	K. Noveve
	NZIMENI	NTWAKOBE			063 886 5514	[signature]
	TEBOHO	Thoboza			0733668495	[signature]
	Lucky	Mokhosi			0810535192	[signature]
	SABATA	MOIWOA			065 591 3403	[signature]
	Kabi	Shuping			0742947931	[signature]
	Buti	Dragh			0760406985	[signature]
	Hoxdo	Phosholi			078 956 1101	[signature]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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	Dipuo	Matlebe			0717501994	
	Masabata	Sehaw			0788814426	
	Molelek	Pule			0780110918	
	Dimakatso	Molete			0734593728	
	Nombuyiselo	Thaele			0833521242	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
MR	TSHEPO	MTSANÉ			0833408684	
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Miss	Makgotso	LITSIA			0735413614	
Mr	Itumeleng	Musotse			063 4910738	
mr	Tebogo	Thebegane			083 371 0948	
mr	Xolile	Mantshiyani			060 796 9257	
Mr	NJ	MELAPE			0633697550	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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Mr	Sello	Moiloa			0731048548	
	Duplan	Semenyane			0784993403	
Ms	Rosalia	Taka			0785094077	
Mr	Thabang	Jafta			060 405 5499	
Mr	Kgothatso	Mosenohi			067 205 1246	
Mr	Aubrey	Pelepone			0730715166	
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Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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Miss	Ditlhare	Rapulens			071 0727173	Rapulens
Ms	Ntebatelo	Modiberg			0133968	
Miss	Dibuseng	Hlambula			073 929 060	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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	Kgutlisitswe	Motsomi			0727453918	
	NTOMBIZODWA	SENOKO			0734906498	
	MARIMA	FICIA			0738591302	
	TSELANE	SEKOTO			0639407853	
	SARAH	LITABE			0781143222	
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	KGAUHELO	PITSO	PITSOKGAUHELO CIVILS CPA(PRO)	PITSOKGAUHELO@GMAIL.COM	0785983295	

Attendance Register

Tuesday, 16 July 2024: Public Meeting

Application for a Part 2 Amendment to the current Environmental Management Programme (EMPr) for the Southern Orange Free State (SOFS) Mining Right of Witwatersrand Consolidated Resources (Pty) Ltd ("Wits Gold") near Virginia

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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Miss	Lindiwe	Mokhachane	N/A	LindiweMokhachane	0789815140	
Miss	Nkaiseng	Mzitshe	N/A	—	0604948640	T.J. Mzitshe
Mrs	Masabata	Phetheka	N/A	—	063 879 8482	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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	Dibuseng	Ramateane	N/A	–	0736484094	[signature]
	Nomapheto	Xaba	N/A	–	0715399979	N. Xaba.
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Mr	MANYATISA	MOKONENYANE	N/A	-	078 612 2978	
MB	Velile	Molefe	Sanco	-	0631541185	
Ms	Modichi	Pelatona	N/A	-	0631277401	
Miss	Maggie	Molebatsi	N/A	-	0734349379	
MS	MAMORENA	MOKOROPANE	N/A	-	0783029064	
Miss	Vuyiswa	Mathase	N/A	-	0638459255	

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
MRS	Kedilesone	Lesobero			0734887270	[illegible]
MRS	Mathabo	Kgatlisi	N/A		0719608395	[illegible]
MRS	MAMMONE	KHUMALO			0717999744	Mmelo
MRS	AMNA	SHUPING			0609005571	Amna
MR	JULIAS	MAQEBA			0731712405	[illegible]
MISS	MASELLO	MATSOSO			0733500767	MMatsoso
Mis	Lebone-Elisha	Lydia			0657181610	Elisha
	MOLEFI NTJANA	NTJANA	N/A		N/A	[illegible]

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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	Ramasenqwa	Marumo			0656351666	R.Marumo
ms	Moletekoa S.	Sibongile			0783181053	S.M
	Moalitaba	Sfaita			0737666680	[illegible]
	Alina	Phatso			0695954176	[illegible]
	Betty	Stofile	LMCDF		0717532688	Mstofile

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
MRS	Motshidisi	Mateea	N.A		0833809583	[signature]
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	Nompelo	Hlathi	N/A		0719974 688	Hlathi
Ms	Nthabiseng	Kesilwe	N/A	[illegible]	0789650215	N.Kesilwe
M.E	Modiehi	Motse	N/A		078 9644237	M.Motse
D.L	Dieketseng	Mpuleriyane	N/A		065 541 9332	Dieketseng
LS	Samoel	Khateng				LS Khateng

Title	Name	Surname	Organisation/Department	Email	Cell number	Signature
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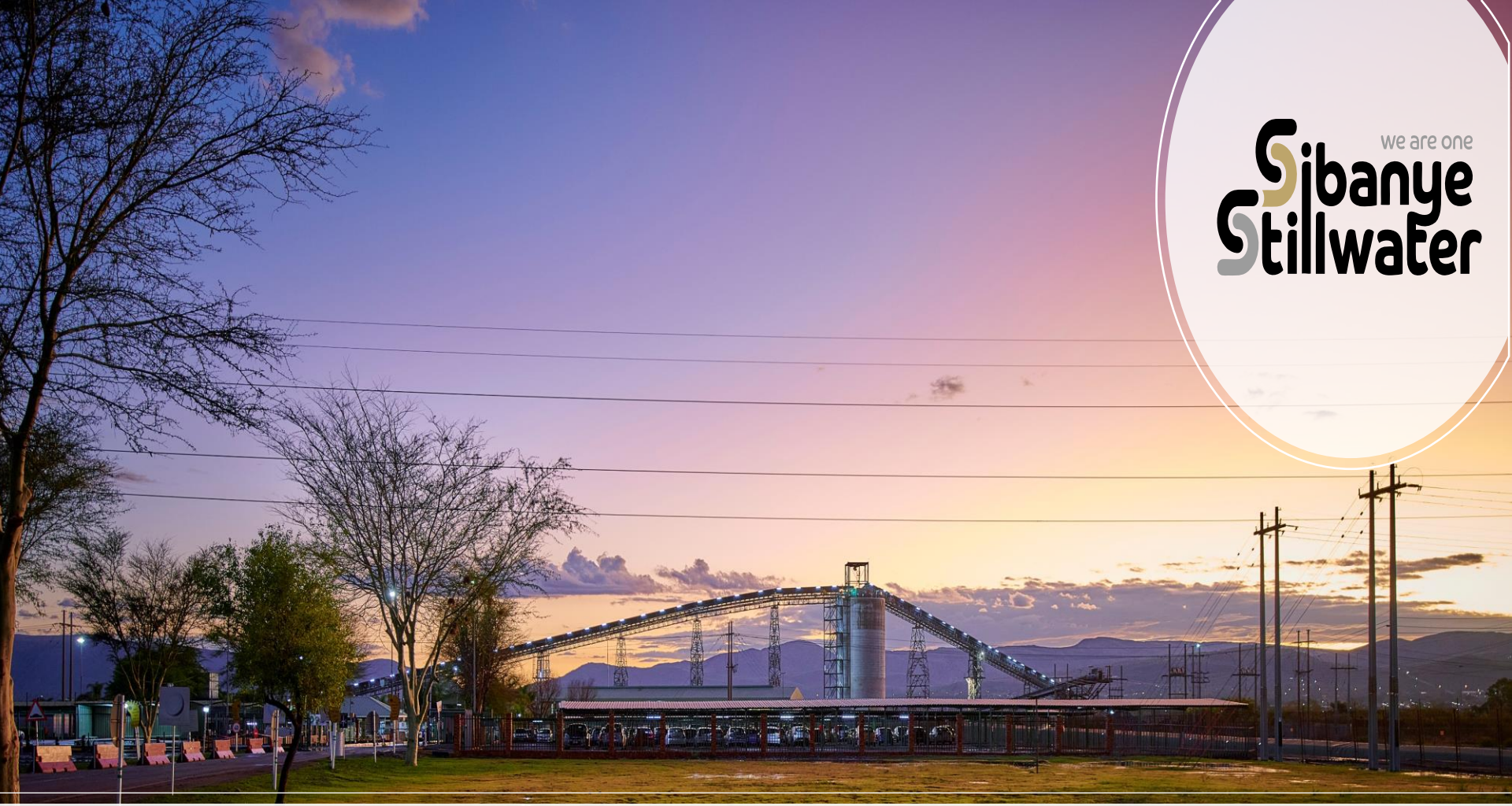
Mr	Moeketsi	Mangoejane	N/A	N/A	083 2822402	
MR	Moeketsi	Nkaekae	N/A	N/A	0656223424	
[illegible]	mosala	Steven	N/A	N/A	064-3344-[illegible]	
Miss	RETHABILE	MAJORO	N/A	rethabimajoro@gmail.com	0633306126	
MR	Tumelong	Lephoi	N/A	thabelangleploi528 @gmail.com	0603350483	



Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (Sibanye-Stillwater): Virginia, Free State

DMRE Reference: FS30/5/1/2/2/10005MR

16 July 2024/ Community and Teams Meetings

Competent Authority Consultation Meeting

Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (subsidiary of Sibanye Gold Proprietary Limited, near Virginia in the Free State

DMRE Reference: FS30/5/1/2/2/10005MR

Application for a Part 2 Amendment for the updating of the Environmental Management Programme Report (EMPR) for the inclusion of the new properties into the Mining Right Area extension.

Purpose of the meeting

- ❑ Consultation with the Community on the EMPr Amendment and Impact Assessment Process
- ❑ Obtain comments, concerns and questions from the local community and possible Interested and Affected Parties (I&APs)

Agenda

1. Welcome and Introductions
2. Project Description & Background
3. Potential Listed Activities and Legal Aspects
4. Other Application Legislation and Licences
5. Proposed Application Process & Timeline
6. Specialist Investigations
7. Specialist Findings
8. Vibrations and Ground Movement
9. Public Participation Plan
10. Discussion & Way Forward
11. Closure

GCS Water & Environmental Consultants

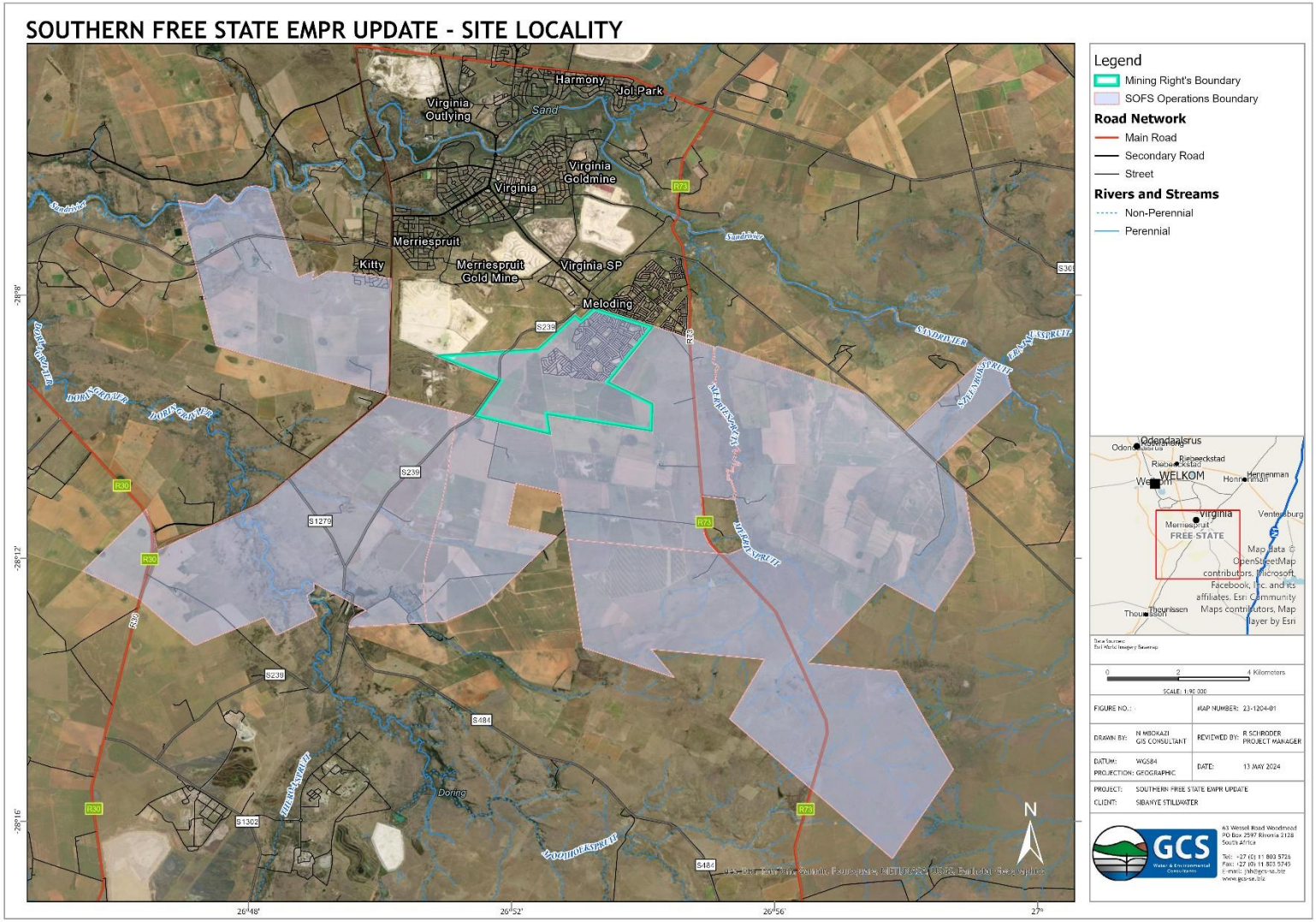
Welcome and Introductions

- Please ensure that you sign the Attendance Register.
- All questions and concerns raised during this meeting will be included in the Comments and Response Report that is submitted with the Final Amendment Report.

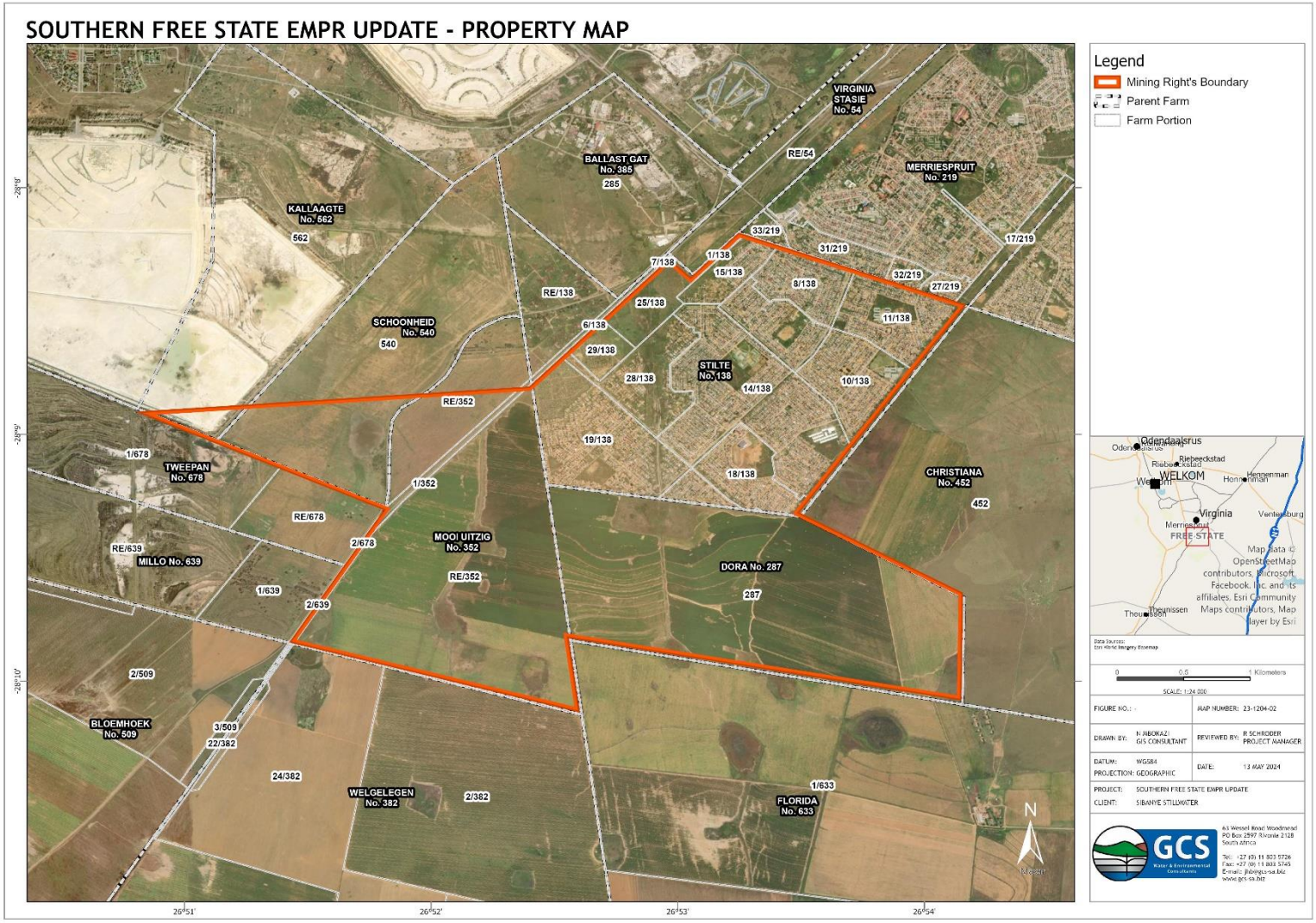
Project Description & Background

- Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (subsidiary of Sibanye Gold Proprietary Limited) is the holder the Mining Right under DMRE reference number: FS30/5/1/2/2/10005 MR generally named Southern Orange Free State ("SOFS").
- An Application was lodged to the DMRE on the 30th of November 2018 for Ministerial consent to amend the extent of the existing Mining Right to include additional properties to the Mining Right.
- The DMRE has issued correspondence to the Applicant requesting that an Environmental Impact Assessment Report and updated Environmental Management Programme (EMPr) be submitted to the DMRE by the 31st of July 2024.
- GCS Environment South Africa has been appointed to complete the Impact Assessment and EMPr Update by the set timeframe from the DMRE.
- At this stage there will be no surface infrastructure located on these properties and mining operations will take place around 1000m below the surface.

Location and Properties to be included



The new properties included in the Application



Potential Listed Activities and Legal Aspects

- **Applicable Legislation to the Amendment of the Environmental Authorisation and Environmental Management Programme (EMPr).**
- **National Environmental Management Act, 1998 (Act 107 of 1998)**
  - The listed activity that is currently listed in the EA is Activity 17:

  Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).

  - As the existing Environmental Authorisation already contains approval for this activity, no need is foreseen to apply for the activity.
- **Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2022)**
  - 31. Amendments to be applied for in terms of Part 2

  An environmental authorisation may be amended by following the process prescribed in this Part if the amendment will result in a change to the scope of a valid environmental authorization where such change will result in an increased level or change in the nature of impact where such level or change in nature of impact was not—

  (a) assessed and included in the initial application for environmental authorisation; or

  (b) taken into consideration in the initial environmental authorisation; and the change does not, on its own, constitute a listed or specified activity.

  - Triggers a Regulation 31, Part 2 amendment which requires a Basic Assessment and PPP.

Other Application Legislation and Licences

National Water Act, 1998 (Act 36 of 1998) (NWA)

- Currently there is no Water Use Licence required as the planned activities don't trigger any activities under Section 21 of the NWA.

National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)

- The new proposed project does not trigger the need for an Atmospheric Emission Licence.

Mineral And Petroleum Resources Development Act, 2002 (Act 28 of 2002)

- This Impact Assessment process is part of the application to obtain the Mining Right for the proposed project.

Proposed Application Process & Timeline

1. The application for inclusion of the proposed properties was submitted to the DMRE on 30 November 2018.
2. As part of the process, the applicant needs to provide an impact assessment for the new proposed area. This Impact Assessment and Amendment of the Environmental Authorisation and Environmental Management Programme (EMPr) is required to assess the possible impacts and provide the DMRE with the necessary information to make their decision on the proposed project.
3. The Public is invited to provide their inputs during the period of 25 June 2024 to 25 July 2024 into the project and raise any concerns or provide comments on the project.

Specialist Investigations

- **The following specialist studies were undertaken for the project:**
  - Hydrogeology and Hydrology
  - Heritage and Paleontological Assessment
  - Wetland Assessment
  - Climate Change Risk Assessment

There is currently no surface infrastructure planned for this project. Therefore, surface disturbances are not anticipated due to the depth of the operations.

Specialist Findings

Hydrogeology and Hydrology

- There are no rivers/ streams or dams situated within the study area.
- There are only 9 operational borehole users in the study area. The boreholes are used for domestic purposes.
- Mining is greater than 550 m therefore, within the Witwatersrand aquifer which is not connected to the Karoo aquifer in which the boreholes are located.

Heritage and Paleontological Assessment

- Historical images indicated 7 buildings and 2 settlements of historical importance were on the site. The buildings have been demolished or ruined, while the settlements have been ploughed over by agricultural activities and the development of Meloding has demolished three of these buildings.
- There are high chances of human graves occurring below the surface.
- The mining will take place well below the burial depth. Will not have an effect on heritage features.
- It is unlikely to affect fossiliferous layers

Specialist Findings

Wetland Assessment

- Four depression/ pan type wetlands were identified.
- Due to the depth of the mining activities the wetlands would not be affected.

Climate Change Risk Assessment

- This project for underground mining would have a low impact on climate change and has a low vulnerability to climate change.
- Possible impacts on the mine due to climate change include an increase in communicable diseases, water shortages and temperature changes which could affect operations.
- Mitigation measures have been proposed to ensure that there will be planning done for such circumstances.

Public Participation Plan

The Public Participation Plan has been circulated.

- **The following process was followed, in accordance with the Environmental Impact Assessment Regulations to notify possible stakeholders about the project:**
  - ✓ Background Information Document (BID)
  - ✓ Advertisements (English and Sesotho) (Free State Sun, Vista, and Masilonyane)
  - ✓ Site Notices (English and Sesotho)
  - ✓ Written Notice (Emails and pamphlets to residents residing in the community and other possible stakeholders)
  - ✓ Stakeholder Meeting/s (Online meeting and Community Meeting within the affected community)
  - ✓ Draft Amendment Report and EMPr placed in the public for review (Hardcopy and Online)
  - ✓ Comments and Response Report (Submitted with final reports on all communication with stakeholders)

Vibrations and Ground Movement

- The Mine will be equipped with underground mine seismic recording networks, using 4.5 Hz geophones and communication hardware to monitor seismic response to mining continually.
- Data from the existing Beatrix mine indicates that there would be no damaging ground motions are expected to impact surface infrastructure.

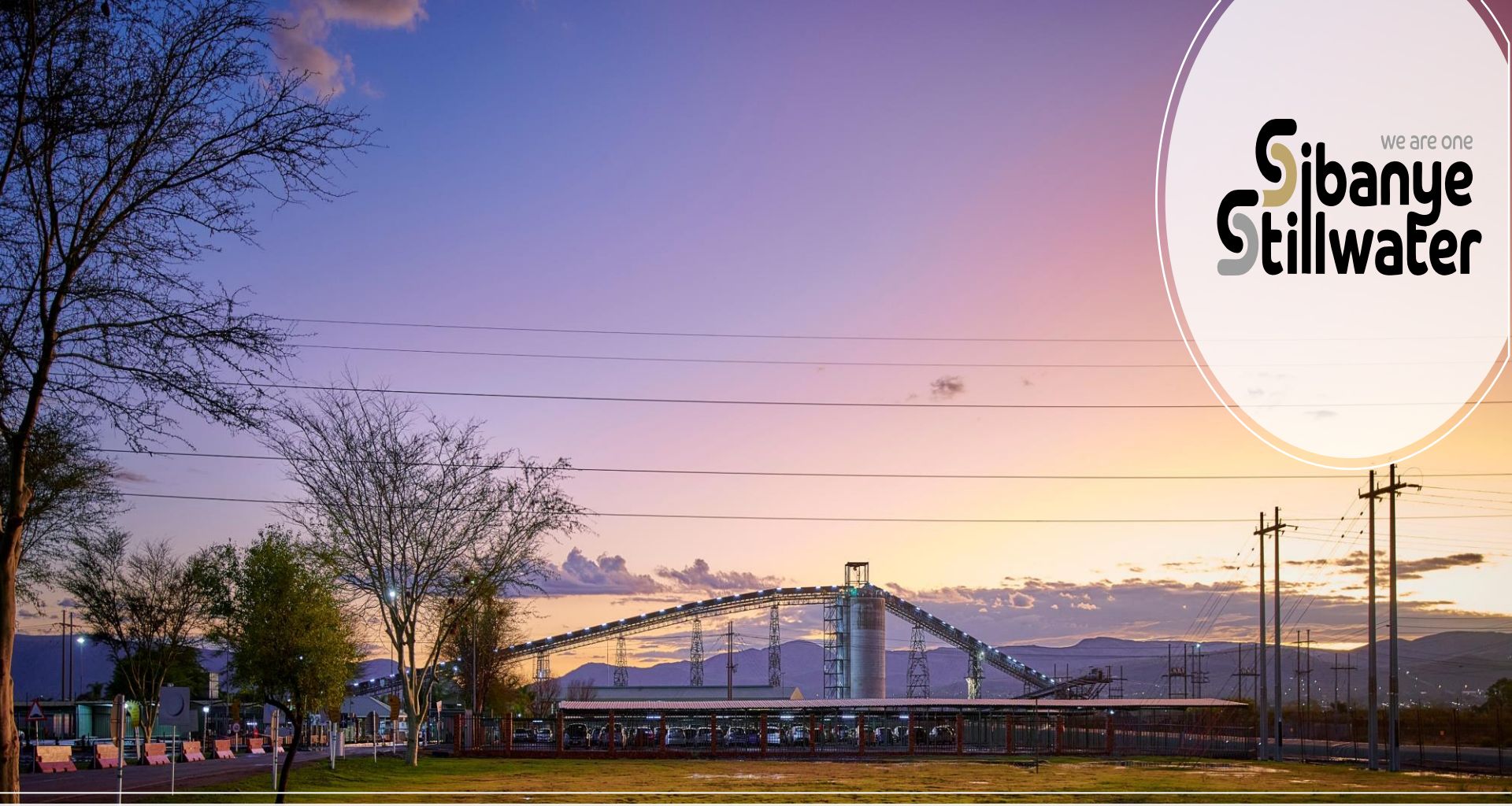
Discussion & Way Forward

1. All attendees will be added as registered Interested and Affected Parties.
2. All comments, concerns, questions raised, and answers provided during this meeting will be included in the Comments and Response Report.
3. Way Forward – The commenting Period ends on 25 July 2024. All inputs should be provided by the deadline date.

Questions?

Tickers: JSE: SSW and NYSE: SBSW
Website: www.sibanyestillwater.com

Closure



Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (Sibanye-Stillwater): Virginia, Free State

DMRE Reference: FS30/5/1/2/2/10005MR

16 July 2024/ Community and Teams Meetings

Kopano ya Theriso ya Bolaodi bo Nang le Bokgoni

Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (khampane e laolwang ke Sibanye Gold Proprietary Limited, haufi le Virginia mane Foreisetata Bopaki ba DMRE: FS30/5/1/2/2/10005MR

Kopo ya Tokiso ya Karolo ya 2 bakeng sa ho ntlafatswa ha Tlaleho ya Lenaneo la Botsamaisi ba Tikoloho (EMPR) ya kenyeletso ya dibaka tse ntjha ka hara katoloso ya Sebaka sa Tokelo ya ho Rafa.

Maikemisetso a kopano ena

- Theriso le Setjhaba ka Tokiso ya EMPr le Mokgwa wa Tsamaiso wa Tekolo ya Sekgahla
- Ho fumana ditshwaelo, dingongoreho le dipotso ho tswa ho setjhaba sa selehae le Batho ba ka tswang ba Na le Thahasello le ba Amehileng (dil&AP)

Lenanetsamaiso

1. Kamohelo le Boitsebiso
2. Tlhaloso & Nalane ya Projeke
3. Mesebetsi le Dintlha tsa Molao tse Boletsweng tse ka tswang di le teng
4. Mokgwa wa Tsamaiso & Nako e Hlahisitsweng ya Kopo
5. Dipatlisiso tsa Ditsebi
6. Morero wa Seabo sa Setjhaba
7. Dipuisano & ho Hatela Pele
8. Ho kwalwa

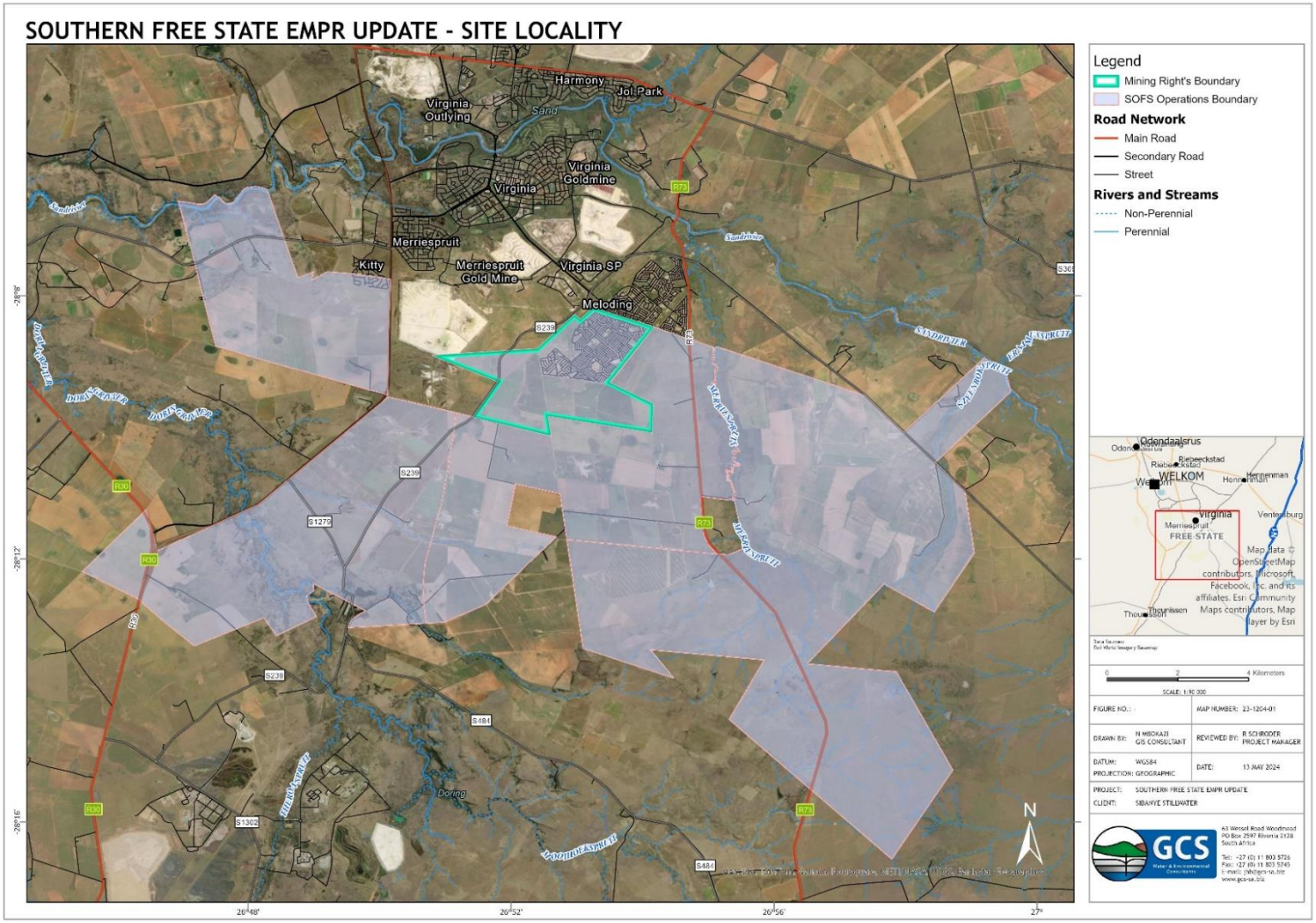
Kamohelo le Boitsebiso

- Ka kopo netefatsa hore o tekena Rejistara ya ba Teng.
- Dipotso le dingongoreho tsohle tse hlahisitsweng nakong ya kopano ena di tla kenyelletswa ka hara Tlaleho ya Ditshwaelo le Karabelo e romelwang mmoho le Tlaleho ya Tokiso ya ho Qetela.

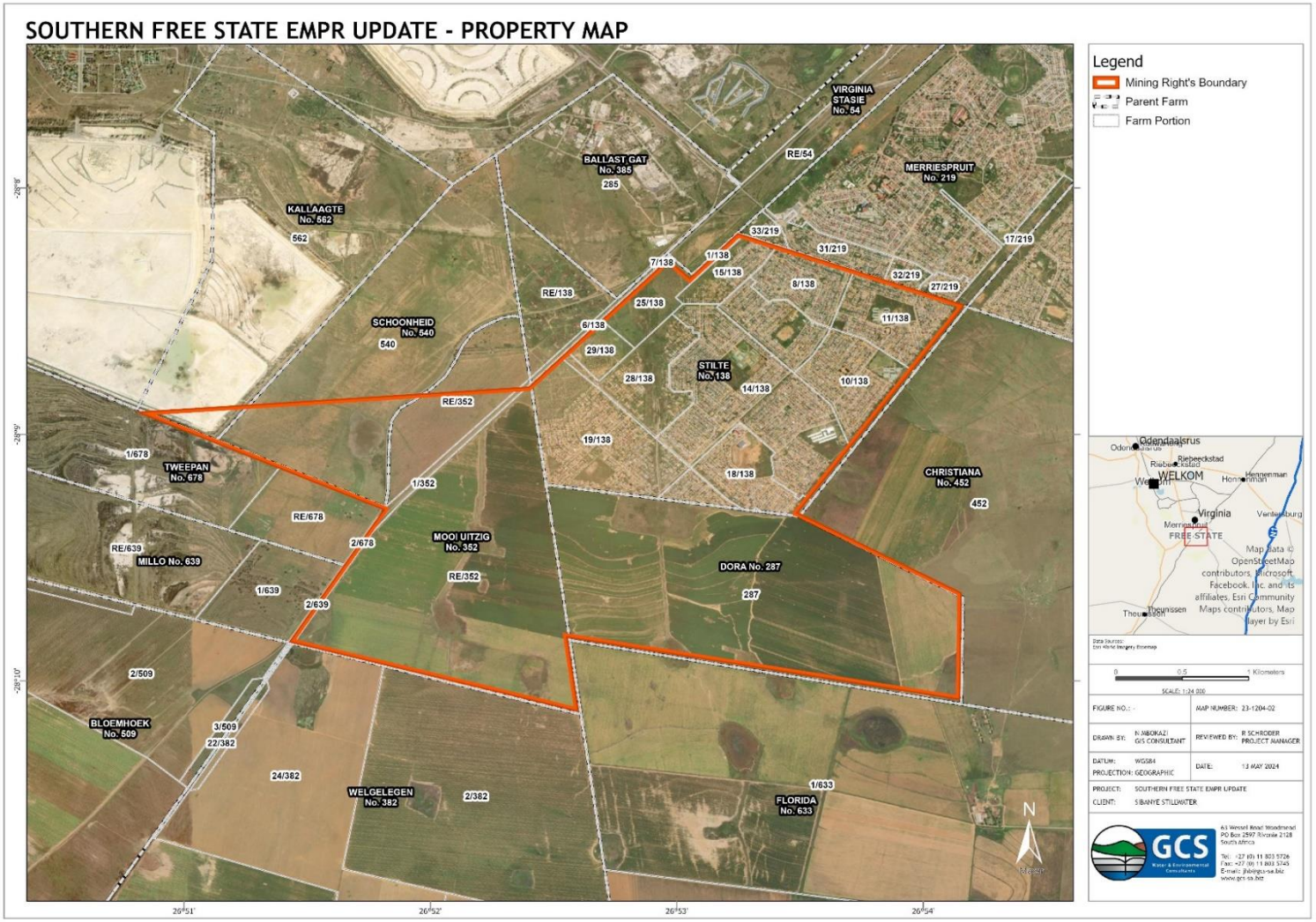
Tlhaloso & Nalane ya Projeke

- Witwatersrand Consolidated Gold Resources (Pty) Ltd (Wits Gold) (khampane e laolwang ke Sibanye Gold Proprietary Limited) ke motshwari wa Tokelo ya ho Rafa tlasa nomoro ya bopaki ya: FS30/5/1/2/2/10005 MR eo ka kakaretso e bitswang Southern Orange Free State ("SOFS").
- Kopo e ile ya etswa ho DMRE ka la bo30 Pudungwana 2018 bakeng sa tumello ya Letona e le ho fetola boholo bo seng bo le teng ba Tokelo ya ho Rafa ho kenyelletsa dibaka tsa tlatsetso ho Tokelo ya ho Rafa.
- DMRE e ngolletse Mokopi e mo kopa Tlaleho ya Tekolo ya Sekgahla sa Tikoloho le Lenaneo la Botsamaisi ba Tikoloho la moraorao (EMPr) hore di romelwe ho DMRE pele ho la bo31 Phupu 2024.
- GCS Environment South Africa e kgethilwe ho phethela Tekolo ya Sekgahla le Ntlafatso ya EMPr nakong e beilweng ke DMRE.
- Ha jwale ha ho na moralo wa motheo o tlang ho beuwa dibakeng tsena mme diopereishene tsa ho rafa di tla etsahala botebong ba 1000m tlasa lefatshe.

Tulo le Dibaka tse tla kenyelletswa



Dibaka tse ntjha tse kenyelleditsweng ka hara Kopo



Mesebetsi le Dintlha tsa Molao tse Boletsweng tse ka tswang di le teng

- **Molao o Sebetsang ho Tokiso ya Tumello ya Tikoloho le Lenaneo la Botsamaisi ba Tikoloho (EMPr).**
- **Molao wa Naha wa Botsamaisi ba Tikoloho, 1998 (Molao wa 107 wa 1998)**
  - Mosebetsi o boletsweng oo ha jwale o boletsweng ka hara EA ke Mosebetsi wa 17:

  Mosebetsi ofe kapa ofe o kenyelletsang le opereishene ya mosebetsi oo o batlang tokelo ya ho rafa jwalo ka ha ho boletswe karolong ya 22 ya Molao wa Ntshetsopele ya Mehlodi ya Dimenerale le Peteroliamo, 2000 (Molao wa Nmr. ya 28 wa 2002), ho kenyelletsa moralo wa motheo o amahanngwang le ona, dibopeho le ho bopela ka mobu, tse amanang ka kotloloho le ho tjhekwa ha mehlodi ya dimenerale, ho kenyelletsa mesebetsi eo ho se kenyeletswe ho ntshitsweng ho latela karolo ya 106 ya Molao wa Ntshetsopele ya Mehlodi ya Dimenerale le Peteroliamo, 2002 (Molao wa Nmr. ya 28 wa 2002).

  - Jwalo ka ha Tumello ya Tikoloho e seng e le teng e na le tumello ya mosebetsi ona, ha ho tlhokeho eo ho bonahalang e tla hlokeha bakeng sa mosebetsi ona.
- **Molao wa Ntshetsopele ya Mehlodi ya Dimenerale le Peteroliamo, 2002 (Molao wa 28 wa 2022)**
  - 31. Ditokiso tse tlang ho sebediswa ho latela Karolo ya 2

Tumello ya tikoloho e ka fetolwa ka ho latela mokgwa ona wa tsamaiso o kahare ho Karolo ena haeba tokiso ena e tla baka ho be le phetoho ho boholo ba tumello e tlamang ya tikoloho moo teng phetoho e jwalo e tla bakang boemo bo eketsehileng kapa phetoho ya semelo sa sekgahla moo teng boemo bo jwalo kapa phetoho ya semelo sa sekgahla se neng se se—

(a) lekotswe le ho kenyelletswa kopong ya motheo ya tumello ya tikoloho; kapa

(b) ya lekolwa nakong ya tumello ya tikoloho; mme phetoho ha e, ka boyona, e etse mosebetsi o boletsweng kapa o hlakisitsweng.

- Qala Molawana wa 31, Tokiso ya Karolo ya 2 e hlokang Tekolo ya Motheo le PPP.

Melao e meng ea Dikopo le Dilaesense

Molao oa Naha oa Metsi, 1998 (Molao oa 36 oa 1998) (NWA)

- Ha jwale ha ho na Laesense ya Tsebediso ya Metsi e hlokehang kaha mesebetsi e reriloeng ha e qale mesebetsi tlasa Karolo ya 21 ya NWA.

Taolo ya Naha ya Tikoloho: Molao wa Boleng ba Moya, 2004 (Molao wa 39 ya 2004)

- Morero o mocha o rerilweng ha o fedise tlhoko ya Laesense ya Boleng ba Moya (Atmospheric Emissions Licence)

Molao wa Ntlafatso ya Mehlodi ya Diminerale le Petroleum, 2002 (Molao wa 28 ya 2002)

- Tsebetso ena ya Tlhahlobo ya diphello ke karolo ya kopo ya ho fumana Tokelo ea Merafo ba keng sa morero o rerilweng.

Mokgwa wa Tsamaiso & Nako e Hlahisitsweng ya Kopo

1. Kopo ya kenyeletso ya dibaka tse hlahisitsweng e ile ya romelwa ho DMRE ka la 30 Pudungwana 2018.
2. Jwalo ka karolo ya mokgwa wa tsamaiso, mokopi o hloka ho fana ka tekolo ya sekgahla ya sebaka se setjha se hlahisitsweng. Tekolo ya Sekgahla le Tokiso ya Tumello ya Tikoloho le Lenaneo la Botsamaisi ba Tikoloho (EMPr) e ya hlokeha ho lekola dikgahla tse ka bang teng le ho fa DMRE tlhahisoleseding e hlokahalang ya ho etsa qeto ka projeke e hlahisitsweng.
3. Setjhaba se memelwa ho fana ka ditlhahiso tsa sona nakong e dipakeng tsa 25 Phuptjane 2024 ho isa ka la 25 Phupu 2024 ka projeke ena le ho hlahisa dingongoreho dife kapa dife kapa ho fana ka ditshwaelo ka projeke ena.

Dipatlisiso tsa Ditsebi

- **Diphuputso tsa ditsebi tse latelang di ile tsa etswa bakeng sa projeke ena:**
  - Haedrojeoloji le Haedroloji
  - Botjhaba le Tekolo ya Bophelo bo Bileng Teng Kgale
  - Tekolo ya Sebaka se Metsi
  - Tekolo ya Kotsi ya Phetoho ya Boemo ba Lehodimo

Ha jwale ha ho na moralo wa motheo wa sebaka o rerilweng bakeng sa projeke ena. Ka hoo, ditshitiso tsa sebaka ha di a lebellwa hore di be teng ka lebaka la botebo ba diopereishene tsena.

Diphuputso tsa ditsebi

Haedrojeoloji le Hadroloji (Diphuputso tsa tekolo tsa metsi)

- Ha ho dinōka/ melatswana kapa matamo a teng sebakeng sa boithuto.
- Ho na le basebedisi ba 9 feela ba sebedisang borehole sebakeng sa boithuto. Di-boreholes di sebedisetswa merero ya lapeng.
- Merafo e kgolo ho feta 550 m ka, ka har'a aquifer ya Witwatersrand e sa hokahaneng le metsi a Karoo moo mekoti eleng teng.

Tlhahlobo ya Lefa le phuputso ya-Paleontological

- Ditswantso tsa nalane di bontsitse meaho e supa (7) le metsana e mebedi (2) ya bohlokwa ba nalane e ne e le setseng. Meaho e heleditswe kapa e senyehile, ha meaho e meng e lengwe ke mesebetsi ya temo le ntlafatso ya Meloding e heleditse tse tharo tsa meaho ena.
- Ho na le menyetla e mengata ya hore mabitla a batho a hlahe.
- Morafo o tla etsahala hantle ka tlase ho botebo ba lepato. E ke ke ya ba le phello ho dikarolo tsa lefa le mabitla.
- Ha ho na monyetla wa ho ama dikarolo tsa- fossiliferous

Diphuputso tsa ditsebi

Tlhahlobo ya Tekolo ya Sebaka se Metsi (Wetland Assessment)

- Ho ile ha hloauoa mefuta e mene (4).
- Ka lebaka la botebo ba mesebetsi ya merafo mekhwabo e ne e ke ke ya ameha.

Tekanyetso ya Kotsi ya Phetoho ya Tlelaemete

- Morero ona wa ho rafa ka tlas'a lefatše o tla ba le tšusumetso e tlase phetohong ya maemo a lehodimo 'me o na le ts'oaetso e tlase ya phetoho ya maemo a lehodimo.
- Ditšusumetso tse ka bang teng morafong ka lebaka la phetoho ya maemo a lehodimo di kenyelletsa keketseho ya mafu a tswaetsanang, kgaello ya metsi le diphetoho tsa mocheso tse ka amang ts'ebetso.
- Mehato ya phokotso e hlahisitswe ho netefatsa hore ho tla ba le moralo o etswang bakeng sa maemo a jwalo.

Morero wa Seabo sa Setjhaba

Morero wa Seabo sa Setjhaba o ile wa arolelanwa.

- **Mekgwa ya tsamaiso e latelang e ile ya latelwa, ho latela Melawana ya Tekolo ya Sekgahla sa Tikoloho ho tsebisa baamehi ba ka tswang ba le teng mabapi le projeke ena:**
  - ✓ Tokomane ya Tlhahisoleseding ya Nalane (BID)
  - ✓ Dipapatso (Senyesemane le Sesotho) (Free State Sun, Vista, le Masilonyane)
  - ✓ Ditsebiso tsa Setsheng (Senyesemane le Sesotho)
  - ✓ Tsebiso e Ngotsweng (Diimeile le diphamfolete ho baahi ba dulang setjhabeng le baamehi ba ka tswang ba le teng)
  - ✓ (Di)Kopano ya Baamehi (Kopano ya inthaneteng le Kopano ya Setjhaba ka hara setjhaba se amehileng)
  - ✓ Tlaleho ya Nakwana ya Tokiso le EMPr e beilweng setjhabeng bakeng sa tlhahlobiso (Tse tshwarehang le Inthaneteng)
  - ✓ Tlaleho ya Ditshwaelo le Karabelo (E rometswe le ditlaleho tsa ho qetela ka dikgokahano le baamehi)

Ditshitsinyeho le Motsamao wa Lefatse

- Moepo o tla hlomellwa ka marang-rang a ho rekota a ditshitsinyeho ya lefatse ka tlasa lefatse, o sebedisa di-geophone tsa 4.5 Hz le disebediswa tsa puisano ho beha leihlo karabelo ya ditshitsinyeho tsa lefatse merafong kamehla.
- Dintlha tse tswang morafong o teng wa Beatrix di bontsa hore ho ke ke ha ba le tsebetso e senyang e lebelletsweng ho ama meralo ya motheo.

Dipuisano & ho Hatela Pele

1. Batho bohle ba teng ba tla kenngwa jwalo ka Batho ba Nang le Thahasello le ba Amehileng ba ngodisitsweng.
2. Ditshwaelo, dingongoreho le dipotso tsohle tse hlahisitsweng, le dikarabo tseo ho fanweng ka tsona nakong ya kopano ena di tla kenyelletswa kahare ho Tlaleho ya Ditshwaelo le Karabelo.
3. Ho Hatela Pele - Nako ya ho tshwaela e fella ka la 25 Phupu 2024. Ho lokela hore ho fanwe ka ditlhahiso tsohle pele ho letsatsi la ho kwalwa.

Questions?

Tickers: JSE: SSW and NYSE: SBSW
Website: www.sibanyestillwater.com

Ho kwalwa

community safety, roads & transport
Department of
Community Safety, Roads & Transport
FREE STATE PROVINCE

REF: P29/4/184/S239
ENQ: Mr. J.P.W. Maree

The Director
GCS Environment South Africa
P.O. Box 2597
Rivonia
JOHANNESBURG
2128

For attention: Me. Anelle Lötter

APPLICATION FOR PART 2 AMENDMENT TO THE CURRENT ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE SOUTHERN ORANGE FREE STATE MINING RIGHT OF WITWATERSRAND CONSOLIDATED RESOURCES (PTY) LTD NEAR VIRGINIA

1. Your letter with reference number CU507 dated 20 May 2024, with documentation in support of the above-mentioned application, as well as your email dated 27 June 2024, refers.

2. This Department supports the above-mentioned application as no provincial road is affected by the application.

Yours faithfully

DIRECTOR: ROAD ASSET MANAGEMENT SYSTEMS

Date: ..1/7/2024..

Directorate Road Asset Management Systems

P O Box 119, BLOEMFONTEIN, 9300
Medfontein Building, 1st Floor, 155 St Andrew Street, BLOEMFONTEIN
Tel: 0820599725 **E-mail:** fsroadplanning@gmail.com

forestry, fisheries
& the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Private Bag X 447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, Tel: +27 12 399 9000, Fax: +27 86 625 1042

Reference: Southern Orange Free State (SOFS)
Enquiries: Ms M Rabothata/ Ms L Dlamini
Telephone: (012) 399 9174 **E-mail:** MRabothata@environment.gov.za

Ms. Rona Schröder
GCS Environment SA (Pty) Ltd
PO Box 2597
RIVONIA
2128

Telephone Number: (+27) 11 803 5726
Email Address: ronas@gcs-sa.biz

PER E-MAIL

Dear Ms. Schröder

COMMENTS ON THE DRAFT AMENDMENT REPORT FOR THE ENVIRONMENTAL AUTHORISATION FOR THE SOUTHERN ORANGE FREE STATE (SOFS) PROJECT, FREE STATE PROVINCE.

The Directorate: Biodiversity Conservation reviewed and evaluated the aforementioned report.

Based on the information provided in the report, the Directorate Biodiversity Conservation does not have any objections to the proposed project. However, to minimize biodiversity impacts, mitigation measures outlined in the EMPr must be adhered to and implemented.

All Public Participation Process documents related to Biodiversity EIA review and any other Biodiversity EIA queries must be submitted to the Directorate: Biodiversity Conservation at Email: BCAdmin@environment.gov.za for attention of **Mr Seoka Lekota.**

Yours faithfully

Mr Seoka Lekota
Control Biodiversity Officer Grade B: Biodiversity Conservation
Department of Forestry, Fisheries & the Environment
Date: 23/07/2024

Batho pele- putting people first

The processing of personal information by the Department of Forestry, Fisheries and the Environment is done lawfully and not excessive to the purpose of processing in compliance with the POPI Act, any codes of conduct issued by the Information Regulator in terms of the POPI Act and / or relevant legislation providing appropriate security safeguards for the processing of personal information of others.

Eskom

GCS Environment South Africa (Pty) Ltd
63 Wessel Road
Rivonia
Johannesburg
South Africa

Date: 02 July 2024
Enquiries: D J Monatisa
Tel: 051-404 5784
E-mail: MonatiDJ@eskom.co.za

Attention: Anelle Lotter

Your Ref: FS30/5/1/2/2/10005MR
Our Ref: SOFS Mining Right

Dear Sir / Madam

WAYLEAVE APPLICATION FOR A PART 2 AMENDMENT TO AN ENVIROMENTAL MANAGEMENT PROGRAMME FOR SOFS MINING RIGHTS NEAR VIRGINIA, FREE STATE PROVINCE

Applicant/Client:
Witwatersrand Consolidated Gold Resources (Pty) Ltd

Your e-mail dated 26 June 2024 regarding above mentioned project hereby refers. Eskom Distribution (Dx) has no objection to the proposed project on the condition that it is moved further away from Eskom Infra-structures and maintain a safe clearance. As per attached sketch, Distribution (Dx) Power lines are affected.

Distribution (Dx) and Transmission (Tx) Power lines are affected. Please also send your application to Transmission (Tx for Comments) as well. The contact person is Ziyanda Mdoda at MaqubeZS@eskom.co.za,Please adhere to Eskom's conditions and always treat Eskom's powerlines as live and keep a building restriction 9 meters on either side of the powerline for 11kV lines and 11 meters on either side of the powerline for 88kV lines and 18 meters on either side of the powerline for 132kV lines.

- **11kV,88kV,132kV Powerlines affected.**

Distribution (Dx) Powerlines affected are:

1. **Dora Rural - Irene 1 11kV Overhead Line**
2. **Meloding - Alpha 1 11kV Overhead Line**
3. **Meloding - Beta 1 11kV Overhead Line**
4. **Kroonstad Munic/Theseus 1 132kV Overhead Line**
5. **Virginia Terminal/Welgelee Traction 1 132kV Overhead Line**
6. **MELODING - THESEUS 1 132kV Overhead Line**
7. **Virginia Terminal/Theseus 1 132kV Overheadline**
8. **Virginia Terminal/Winburg Munic 1 88kV Overhead Line (Senekal CNC section)**

Transmission (Tx) Powerlines affected are:

1. **Everest/Perseus 1 275kV Overhead Line**
2. **Grootvlei/Theseus 1 400kV Overhead Line**

Please find Eskom's conditions which must always be respected when working near or closer to our services:

1. Eskom Dx shall at all times retain unobstructed access to and egress from its servitudes.

2. Eskom Dx's consent does not relieve the applicant from obtaining the necessary statutory, landowner or municipal approvals.

3. The applicant will adhere to all relevant environmental legislation. Any cost incurred by Eskom Dx as a result of non-compliance will be charged to the applicant.

4. No drilling shall take place within 11 metres from any Eskom Dx power line structure,

5. All work within Eskom Dx's servitude areas shall comply with the relevant Eskom earthing standards in force at the time.

6. If Eskom Dx has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the applicant's activities or because of the presence of his equipment or installation within the servitude area, the applicant shall pay such costs to Eskom Dx on demand.

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7. The use of explosives of any type within 500metres of Eskom Dx's services shall only occur with Eskom Dx's prior written permission. If such permission is granted the applicant must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. If blasting becomes necessary, application in this regard should be made separately.

8. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom Dx's requirements.

9. Eskom Dx shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the applicant, his/her agent, contractors, employees, successors in title, and assigns. The applicant indemnifies Eskom Dx against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom Dx's services or apparatus or otherwise. Eskom Dx will not be held responsible for damage to the applicant's equipment.

10. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom Dx's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the applicant must give at least seven working days prior notice of the commencement of work. **This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Technical Service Centre.**

11. No work shall commence unless Eskom Dx has received the applicant's written acceptance of the conditions specified in the letter of consent and/or permit.

12. Eskom Dx's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with. Note: Where an electrical outage is required, at least fourteen workdays are required to arrange same.

13. Under no circumstances shall rubble, earth or other material be dumped within the servitude area. The applicant shall maintain the area concerned to Eskom Dx's satisfaction. The applicant shall be liable to Eskom Dx for the cost of any remedial action which has to be carried out by Eskom Dx.

14. The clearances between Eskom Dx's live electrical equipment and the proposed construction work shall be observed as stipulated by *Regulation 15* of the *Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).*

15. Eskom shall be regarded electrically live and therefore dangerous at all times.

16. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as additional safety precaution, Eskom Dx will not approve the erection of houses or structures occupied or frequented by human beings under the power lines or within the servitude area.

17. Eskom Dx may stipulate any additional requirements to illuminate any possible exposure to Customers or Public to coming into contact or be exposed to any dangers to Eskom plant.

18. It is required of the applicant to familiarise him/herself with all safety hazards related to Electrical plant.

Should the applicant or his/her contractor damage any of Eskom's services during execution of any work whatsoever, the incident must be reported to Eskom's Technical service centre**, Cheryl Klaassen @057-221 9604 and 083 388 1534, Sean Johnson @ 057 391 0702 and 082 827 9143 and Motsedisi Rathebe @ 057 391 9471 and 079 011 2460** immediately. The same person must be contacted **before**
commencement of the project as well.

For the re-location of any Eskom's services, our customer service centre should be contacted on **051-404 2211.**

The above conditions should be accepted in writing before any work within Eskom Services commences and the technical service centre must be informed of the future activities.

For any further information please contact the writer at the above-mentioned telephone number.

Yours sincerely

_____

D J Monatisa
For Land Development Manager

Appendix F: Financial Provisioning

	Closure Component (Select View)	Cash flowed costs expensed method		Unscheduled Closure (2018)						
				Applicable	Quantity	Unit	Unit rate code	Unit rate	Total cost	Notes
	#REF!									
1	**Infrastructural Areas**									
1.1	**Dismantling of processing plant and related structures**									
1.1.1	Steel water tank			Yes	1	/tank	B5.2	R 22 417.81	R 22 417.81	
	Sub-total for Dismantling of processing plant and related structures	#REF!							**R 22 417.81**	
1.2	**Demolition of steel buildings**									
	Not applicable									
	Sub-total for Demolition of steel buildings	#REF!							**R -**	
1.3	**Demolition of other buildings and structures**									
1.3.1	Concrete slabs	S-curve		Yes	1.2	/m2	A2.5	R 105.60	R 126.72	
1.3.2	Concrete Foundations	S-curve		Yes	0.4	/m	A2.1	R 184.38	R 73.75	
1.3.3	Concrete Dams	S-curve		Yes	1500	/m3	A1.3	R 878.00	R 1 317 000.00	
13.4	Other buildings	S-curve		Yes	9.6	/m2	C1	R 437.83	R 4 203.17	
	Sub-total for Demolition of other buildings and structures	S-curve							**R 1 321 403.64**	
1.4	**Rehabilitation of roads and paved surfaces**									
1.4.1	Gravel Roads	S-curve		Yes	18000	/m2	E3	R 88.25	R 1 588 437.25	Estimate approximately 600 m x 6 m wide internal roads and parking surfaces
1.4.1	Tar Roads	S-curve		Yes	4000	/m2	E1	R 95.51	R 382 043.32	Quantity assumed
1.4.1	Car Ports (IBR)	S-curve		Yes	1300	/m2	B7.2	R 57.24	R 74 417.20	Quantity assumed
	Sub-total for Rehabilitation of roads and paved surfaces	S-curve							**R 2 044 897.76**	
1.5	**Demolition and rehabilitation of railway lines**									
1.5.1	Not applicable	S-curve		No	0	N/A	L1	R 0.00	R -	
	Sub-total for Demolition and rehabilitation of railway lines	S-curve							**R -**	
1.6	**Other linear Infrastructure**									
1.6.1	Fencing around dams/ reservoirs	S-curve		Yes	162.6	/m	I2.2	R 15.00	R 2 439.00	
	Sub-total for Other linear Infrastructure	S-curve							**R 2 439.00**	
1.7	**Disposal of demolition waste**									
1.7.1	Establish salvage yard	S-curve		Yes	1.00	0	N6	R 211 348.59	R 211 348.59	
1.7.2	Construct decontamination bay	S-curve		Yes	1.00	0	N5	R 495 000.00	R 495 000.00	
1.7.3	Sorting and screening of demolition waste	S-curve		Yes	1	/sum	L2	R 667 320.75	R 667 320.75	
1.7.4	Concrete demolition waste									
	Crushing of concrete demolition waste	S-curve		Yes	1500.64	/m3	A3.1	R 246.00	R 369 157.44	
	Transport of concrete demolition waste	S-curve		Yes	1500.64	/m3	H2.1.1	R 49.27	R 73 937.33	Allowance for disposal at shaft (1km)
1.7.5	Steel demolition waste								R -	

	Closure Component (Select View)	Cash flowed costs expensed method	Unscheduled Closure (2018)						
			Applicable	Quantity	Unit	Unit rate code	Unit rate	Total cost	Notes
	Transport of steel demolition waste	S-curve	Yes	0.00	/m3	H2.1.1	R 49.27	R -	Assume 1km load and haul to salvage yard
1.7.6	General demolition waste							R -	
	Transport of waste to shaft	S-curve	Yes		/m3	H2.1.1	R 49.27	R -	Allowance for disposal at shaft (1km)
	Disposal of demolition waste	S-curve	No		N/A	L1	R 309.96	R -	Assume all general demolition waste will be disposed of in shaft
1.7.7	Hazardous waste								
	Disposal of demolition hazardous waste	S-curve	Yes	10.00	#N/A	G5.2.1	R 393.66	R 3 936.60	Assumed nominal amount of hazardous material/waste on site
	Disposal of demolition hazardous waste - road asphalt	S-curve	Yes	300.00	/m3	G5.2	R 918.92	R 275 675.40	
	Transport of demolition hazardous waste	S-curve	Yes	310.00	/m3	M5	R 2 167.63	R 671 965.30	Assume disposal at Holfontein
	Sub-total for Disposal of demolition waste	S-curve						**R 2 768 341.41**	
1.8	**Making good of infrastructure**								
1.8.1	Not applicable	S-curve	No	0	N/A	L1	R 0.00	R -	
	Sub-total for Making good of infrastructure	S-curve						**R -**	
	Sub-total for Infrastructural Areas							**R 6 159 499.62**	
2	**Mining Areas**								
2.1	**Open pit rehabilitation including final voids and ramps**								
2.1.1	**Not applicable**	S-curve	No	0	N/A	L1	R 0.00	R -	
	Sub-total for Open pit rehabilitation including final voids and ramps	S-curve						**R -**	
2.2	**Sealing of shafts, adits and inclines**								
2.2.1	Sealing of shaft	S-curve	Yes	1	sum	F1.8	R 1 923 200.03	R 1 923 200.03	Assume portal void will be backfilled with waste rock, load and haul distance 0-1 km. Assume about half the size of the incline shaft (no. 94)
2.2.2	Sealing of Vent shaft	S-curve	Yes	1	sum	F1.8	R 1 923 200.03	R 1 923 200.03	Assume portal void will be backfilled with waste rock, load and haul distance 0-1 km. Assume about half the size of the incline shaft (no. 94)
	Sub-total for Sealing of shafts, adits and inclines	#REF!						**R 3 846 400.07**	
2.3	**rehabilitation of stockpiles and processing residues**								
	Not Applicable								
	Sub-total for rehabilitation of stockpiles and processing residues	#REF!						**R 1 757 017.57**	
2.4	**Rehabilitation of clean water impoundments**								
2.4.1	**Not applicable**	S-curve	No	0	N/A	L1	R 0.00	R -	
	Sub-total for Rehabilitation of clean water impoundments	S-curve						**R -**	
2.5	**Rehabilitation of dirty water impoundments**								
	Not applicable								
	Sub-total for Rehabilitation of dirty water impoundments	#REF!						**R -**	
2.6	**Rehabilitation of subsided areas**								
2.6.1	**Not applicable**	S-curve	No	0	N/A	L1	R 0.00	R -	
	Sub-total for Rehabilitation of subsided areas	S-curve						**R -**	

	Closure Component (Select View)	Cash flowed costs expensed method	Unscheduled Closure (2018)						
			Applicable	Quantity	Unit	Unit rate code	Unit rate	Total cost	Notes
	Sub-total for Mining Areas							**R 5 603 417.64**	
3	**General Surface Rehabilitation**								
3.1	**Infrastructural Areas**								
3.1.1	Shape rip and topsoil overburden and spoils dump	S-curve	Yes	60.0	/ha	G1.3	R 258 078.83	R 15 484 730.00	
	Entire footprint area: Deep ripping of infrastructure footprint area	S-curve	Yes	60.0	/ha	H3.3	R 17 620.96	R 1 057 257.60	
	Entire footprint area: re-vegetate grassland species	S-curve	Yes	60.0	/ha	G2.3	R 12 212.29	R 732 737.28	
3.1.2	General Surface Rehabilitation	S-curve	Yes	10.8	/ha	G1.2	R 153 632.78	R 1 654 625.05	
	Entire footprint area: Deep ripping of infrastructure footprint area	S-curve	Yes	25.9	/ha	H3.3	R 17 620.96	R 455 501.82	
	Entire footprint area: re-vegetate grassland species	S-curve	Yes	25.9	/ha	G2.3	R 12 212.29	R 316 298.26	
	Sub-total for Infrastructural Areas	S-curve						**R 19 701 150.01**	
3.2	**Other surface disturbances**								
	Not applicable								
	Sub-total for Other surface disturbances	#REF!						**R -**	
	Sub-total for General Surface Rehabilitation							**R 19 701 150.01**	
4	**Runoff Management**								
4.1	**River diversions and watercourse reinstatement**								
4.1.1	Not applicable	S-curve	No	0	N/A	L1	R 0.00	R -	
	Sub-total for River diversions and watercourse reinstatement	S-curve						**R -**	
4.2	**Reinstatement of drainage lines**								
4.2.1	Drainage lines	S-curve	No	85.9	/ha	G3.1	R 7 681.64	R -	
	Sub-total for Sub-total for River diversions and watercourse reinstatement	S-curve						**R -**	
	Sub-total for Runoff Management							**R -**	
	Sub-Total 1 (for infrastructure and related aspects)							**R 31 464 067.27**	
5	**P&Gs, Contingencies and Additional Allowances**								
5.1	Preliminaries and general	S-curve	Yes	6	/sum	L2	R 1 887 844.04	R 1 887 844.04	Assumed 6 % of Sub-total 1
5.2	Contingencies	S-curve	Yes	10	/sum	L2	R 3 146 406.73	R 3 146 406.73	Assumed 10 % of Sub-total 1
	Sub-total for Ps and Gs	S-curve						**R 5 034 250.76**	
	Sub-total for Additional Studies	S-curve						**R -**	
	Sub-Total 2 (for Additional Allowances)	#REF!						**R 5 034 250.76**	
6	**Pre-site Relinquishment Monitoring and Aftercare**								
6.1	Surface water quality monitoring	S-curve	Yes	5	/yr	K1	R 1 608 376.00	R 8 041 880.00	Surface water monitoring for entire SOFS complex, 6 monitoring locations
6.2	Groundwater quality monitoring	S-curve	Yes	5	/yr	K2	R 577 946.29	R 2 889 731.43	Ground water monitoring for entire SOFS complex, 9 monitoring locations
6.3	Rehabilitation monitoring of rehabilitated areas	S-curve	Yes	60.0	ha	J1	R 5 644.80	R 338 688.00	5 years
6.4	Care and maintenance of rehabilitated areas	S-curve	Yes	60.0	ha/5yr	J3	R 32 400.00	R 1 944 000.00	5 years
	Sub-Total 3 (for Post-Closure aspects)	S-curve						**R 13 214 299.43**	
	Grand Total Excl. VAT. (for Sub-total 1 +2 +3)							**R 49 712 617.46**	